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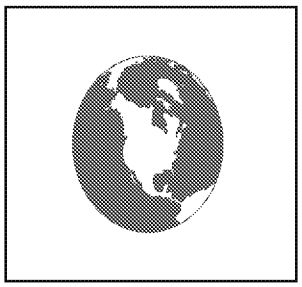

INTERNATIONAL REGULATORY DEVELOPMENTS

DECEMBER 2013

Executive Summary

While EU air quality policy has brought significant reductions in concentrations of harmful pollutants major problems remain. Its new strategy will focus on effective implementation of existing EU legislation, notably on emissions from light-duty diesels. Real-world NOx emissions from Euro 5 cars type-approved since 2009 now exceed those of Euro 1 cars type-approved in 1992, and are in the region of five times the limit value. Real driving emissions (RDE) of NOx will be recorded and communicated as from the mandatory Euro 6 dates (in 2014) and, no more than three years later the RDE procedure will be applied for type approval, together with what are intended to be robust not-to-exceed (NTE) emission limits. This is intended to ensure the substantial reduction of real-world NOx emissions required to achieve Euro 6 NOx emission limits under normal driving conditions. Further tightening of EU vehicle emissions standards beyond Euro 6 is not currently considered necessary to achieve new air policy targets for 2025 and 2030. Guidelines for retrofit programs and for promoting the uptake of advanced technology options will be developed, building on the "Super Ultra Low Emission Vehicle" concept developed in the U.S.A.

The average fuel economy of vehicles sold in the United States hit a record high 23.6 miles per gallon (mpg) for the model year 2012, the U.S. Environmental Protection Agency has announced. Projections for the model 2013 year indicate a rise of 0.4 mpg, the EPA said, though the agency added that it did not yet have final data for 2013.

China has launched its national "V" standard for gasoline which will become a national mandate from Jan 2018. It will require gasoline to have a **sulfur content of no more than 10 parts per million (ppm)**, down from 50 ppm in the national IV standard; **manganese** to be cut to 0.002 gram per liter from 0.008 gram.

Barbados is the first island in the Caribbean to officially move from High Sulfur Diesel to Ultra-Low Sulfur Diesel (ULSD), moving from a maximum sulfur content of 5,000 parts per million to a maximum content of 15 parts per million.

EUROPE

1. New Policy Package Proposed To Clean Up Europe's Air

The human toll for poor air quality is worse than for road traffic accidents, making it the number one environmental cause of premature death in the EU. It also impacts the quality of life due to asthma or respiratory problems. The Commission has responded with a clean air policy package which updates existing legislation and further reduces harmful emissions from industry, traffic, energy plants and agriculture. The direct costs to society from air pollution in Europe, including damage to crops and buildings, amount to about €23 billion per year. The benefits to people's health from implementing the package are around €40 billion a year, over 12 times the costs of pollution abatement, which are estimated to reach € 3.4 billion per year in 2030.

The package has a number of components including:

- A new Clean Air Program for Europe with measures to ensure that existing targets are met in the short term, and new air quality objectives for the period up to 2030. The package also includes support measures to help cut air pollution, with a focus on improving air quality in cities, supporting research and innovation, and promoting international cooperation

- A revised National Emission Ceilings Directive with stricter national emission ceilings for the six main pollutants , and

- A proposal for a new Directive to reduce pollution from medium-sized combustion installations, such as energy plants for street blocks or large buildings, and small industry installations.

By 2030, and compared to business as usual, the clean air policy package is estimated to:

- avoid 58 000 premature deaths,

- save 123 000 km^2 of ecosystems from nitrogen pollution (more than half the area of Romania),

- save 56 000 km^2 protected Natura 2000 areas (more than the entire area of Croatia) from nitrogen pollution,

- save 19 000 km^2forest ecosystems from acidification.

Health benefits alone will save society €40-140 billion in external costs and provide about €3 billion in direct benefits due to higher productivity of the workforce, lower healthcare costs, higher crop yields and less damage to buildings. The proposal will also add the equivalent of around 100 000 additional jobs due to increased productivity and competitiveness because of fewer workdays lost. It is estimated to have a positive net impact on economic growth.

The proposal is based on the conclusions of a comprehensive review of existing EU air policy. It comes after extensive consultations that found broad support for EU-wide action in this area.

Background

Many EU Member States are still falling short of agreed EU air quality standards, and the air pollution guidelines of the UN World Health Organization are generally not being met. While EU air quality policy has brought significant reductions in concentrations of harmful pollutants such as particulate matter, sulfur dioxide (the main cause of acid rain), lead, nitrogen oxides, carbon monoxide and benzene, major problems remain. Fine particulates and ozone, in particular, continue to present significant health risks and safe limits for health are regularly exceeded. EU air quality standards and targets are breached in many regions and cities, and public health suffers accordingly, with rising costs to health care and the economy. The total external health-related costs to society from air pollution in Europe are estimated to be in the range of €330-940 billion per year. The situation is especially severe in urban areas, which are now home to a majority of Europeans.

The measures in this new strategy build on those presented in the 2005 Thematic Strategy on Air Pollution and will deliver further progress towards long term objectives of the 6th and 7th Environmental Action Programs. The strategy also contains non-regulatory support measures to enhance capacity and co-operation at all political levels, with priority areas including urban air pollution, research and innovation, and the international dimension of air policy.

The ongoing substantial breaches of air quality standards can be resolved in the short to medium term by effective implementation of existing EU legislation, notably on emissions from light-duty diesels[1] and complementary measures at national level. Transposing the amended Gothenburg Protocol agreed in 2012 would also be needed to align the EU regulatory framework to the EU's international commitments. The aim of these measures is to achieve full compliance with existing air quality standards by 2020 at the latest.

Completing unfinished business: fixing the light-duty diesel emissions problem

Successive generations of Euro standards and fuel quality standards have been agreed so as to control vehicle emissions in the EU. The required reductions have been delivered, with one exception: NOx emissions from light-duty diesel engines. Real-world NOx emissions from Euro 5 cars type-approved since 2009 now exceed those of Euro 1 cars type-approved in 1992, and are in the region of five times the limit value. This has a major impact on concentrations of NO2, ozone and secondary particles across Europe, generating negative publicity and reputational damage for vehicle manufacturers.

In its CARS 2020 Communication, the Commission noted the shortcoming of the current procedures and committed to a new test procedure in the type-approval framework to assess NOx emissions of light-duty vehicles under real-world driving conditions.[2] Real driving emissions (RDE) of NOx will be recorded and communicated as from the mandatory Euro 6 dates (in 2014) and, no more than three years later the RDE procedure will be applied for type approval, together with what are intended to be robust not-to-exceed (NTE) emission limits. This is intended to ensure the substantial reduction of real-world NOx emissions required to achieve Euro 6 NOx emission limits under normal driving conditions.[3]

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[1] I.e. implementation of the Euro 6 vehicle controls under Regulation (EC) 715/2007 so as to ensure that real world emissions of nitrogen oxides (NOx) from light-duty diesel vehicles are close to the limit values in the legislation.

[2] COM(2012) 636 final, Brussels, 8.11.2012

[3] Investigation and repression of some of the possible causes of these deviations (poor maintenance, cycle beating at certification, aftermarket defeat devices that eliminate or bypass pollution reduction equipment) should also be

Further tightening of EU vehicle emissions standards beyond Euro 6 is not currently considered necessary to achieve new air policy targets for 2025 and 2030. Rather, measures supporting sustainable urban mobility will help target localized transport problems.

The main responsibility for resolving localized compliance problems lies with Member States, where there is substantial scope for enhanced national and local action. The current assessment and management options available will be supplemented by the measures on sustainable mobility in the Communication 'Together towards competitive and resource-efficient urban mobility', in particular those on Sustainable Urban Mobility Plans and on Urban Vehicle Access Regulations. Guidelines for retrofit programs and for promoting the uptake of advanced technology options will be developed, building on the "Super Ultra Low Emission Vehicle" concept developed in the U.S.A. The latter concept will also be expanded to other sectors to support Member States with compliance problems. To improve public information on the performance of products and the success of national and local air quality action, new public-oriented indicators will be developed to track progress in mitigating air pollution nationally and locally. To facilitate consumer choice, citizens will also be informed of the real-world vehicle emissions measured according to the new test cycle (from the Euro 6 deadlines onwards).

The air policy review indicated that it is not appropriate to revise the Ambient Air Quality Directive now. Policy should focus rather on achieving compliance with existing air quality standards by 2020 at the latest, and on using a revised NEC Directive to bring down pollution emissions in the period to 2030. Such emission reductions will in turn drive down background concentrations across Europe, bringing major benefits for public health and ecosystems.

The Ambient Air Quality Directive remains a key policy if the EU is to ensure future concentrations below the WHO guideline values everywhere. It will be kept under review, with a view to revision once the NECD has set background concentrations on the right downwards track.

A thorough review of EU air policy to date has shown that the combination of targets and legislation has delivered real benefits for human health and the environment. The health impacts from particulate matter – the main cause of death from air pollution – fell by around 20% between 2000 and 2010. The acid rain ("acidification") problem has been broadly solved in the EU, thanks to a substantial reduction in emissions of the main pollutants involved.[4] EU air policy has stimulated innovation in pollution abatement and radically improved the environmental performance of key economic sectors. This has safeguarded growth and jobs and opened up green technology opportunities in the EU and beyond.

The long-term EU objective for air pollution implies no exceedances of the World Health Organization guideline levels for human health[5] (which may also develop over time) and no exceedances of the critical loads and levels which mark the limits of ecosystem tolerance.[6] The new strategy pursues two priorities in parallel: to achieve full compliance with existing legislation by 2020 at the latest, and to set a pathway for the EU to meet the long-term objective.

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enforced, as this would allow to reduce emissions from high emitters without waiting for a new generation of vehicles to enter into service.

[4] The emission reductions are due to EU legislation on sulfur emissions from large combustion plants (LCPs), and to the low sulfur road transport fuel requirements that also enabled the use of enhanced after-treatment devices from Euro 4 onwards.

[5] Strictly speaking, there is no known safe level of exposure for some pollutants such as particulate matter, but WHO guidelines are set at low risk levels and regularly revised.

[6] Critical loads and levels, i.e. the maximum levels the ecosystem can tolerate without degrading.

Delivering the above targets will require a combination of regulatory and non-regulatory measures. The measures will also focus on delivering benefits for climate change mitigation by targeting those pollutants that contribute significantly to climate impacts as well as air pollution (such as the "black carbon" component of particulate matter) or promoting measures that tackle air pollutants and climate gases simultaneously (such as ammonia and nitrous oxide).

For 2030 the proposal includes[7] cost-effective national emission reduction obligations for the four original air pollutants (SO_2, NOx, non-methane VOCs, and NH_3), and for two new ones: primary $PM_{2.5}$ (fine particulate matter, which has major health impacts) and CH_4 (methane, a key short-lived climate pollutant). In implementing the $PM_{2.5}$ reductions, particular emphasis will be placed on reduction of black carbon (BC), the other major short-lived climate pollutant. The CH_4 and BC measures will provide direct climate co-benefits whilst also preparing the ground for international action. Flexibility arrangements are proposed, to allow for uncertainties regarding emission inventory methods and the future energy mix without undermining the integrity of the instrument.

While the NEC Directive gives Member States maximum flexibility to identify appropriate measures, many stakeholders requested support through targeted EU source controls such as revision of the Non-Road Mobile Machinery Directive, which will generate substantial benefits by extending the capacity range and machinery types covered, and by aligning controls with the Euro VI heavy-duty limits.

The main gap in EU source legislation (other than agriculture) concerns emissions from combustion installations of a thermal capacity between 1 and 50 MW, which are important also to avoid tradeoffs between air quality and renewables policy (notably related to increased biomass use). The proposed Directive on the limitation of emissions of certain pollutants into air from medium combustion plants (MCP) is intended to provide an effective instrument to further reduce pollution of NOx, SO2 and PM through appropriate limit values for new and existing installations, coupled with a simple registration scheme. This Directive will hopefully help deliver a significant part of member States' emission reduction obligations.

To achieve the new air policy targets for 2030, the proposed NEC Directive requires ammonia reductions of 27%. Options for further source controls at EU level will be examined, including a general requirement for a nutrient balance in the application of fertilizer, specific controls on manure management, and labelling and other provisions for inorganic fertilizers (in the context of the ongoing review of the Fertilizers Regulation). Many of these measures will also help reduce emissions of nitrous oxide, a potent greenhouse gas regulated under the Kyoto Protocol.[8]

The 2012 revision of the Directive on the Sulfur Content of Liquid Fuels[9] ensures that the most cost-effective measures to reduce sulfur emissions from shipping in the EU are already on the way, with the SECA standard of 0.1% sulfur content in the Baltic and North Sea from 2015, and

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[7] Action on Short Lived Climate Pollutants (SLCPs) was specifically examined. While a separate ceiling for black carbon (BC) is not currently appropriate, the EU and Member States are to prioritize measures with an impact on BC in meeting their PM2.5 reduction obligations. The new methane ceiling will exploit the substantial potential for low- or zero-cost reduction, thus complementing the VOC and NOx reductions required to reduce the concentrations of ozone both in the EU and internationally. These actions are aimed also at promoting international action on SLCF to reduce hemispheric air pollution.

[8] UNEP has estimated that, globally, N2O emissions equivalent to 0.8 gigatons of CO2 could be avoided every year by 2020, amounting to 8% of the 'emissions gap' between reduction pledges made by countries and the action needed to keep global temperature rise below 2°C.

[9] Directive 2012/33/EU.

the global standard of maximum 0.5% sulfur in all EU waters from 2020. However, previous analysis shows that emissions from shipping will continue to impact air quality on land,[10] and that reductions from the sector could be cost-effective. Considering the international character of shipping and Europe's dependence on it, preference must always be given to policy development at the international level (IMO), such as designation of NOx Emission Control Areas and enforcement of NOx emission standards already agreed by the IMO. The proposal for a revised NEC Directive aims to incentivize reductions from shipping, by allowing them to be offset against the reduction obligations for land-based sources for 2025 and 2030.

Reductions in real-world emissions from light-duty diesels and progress in compliance with the Ambient Air Quality Standards will be tracked closely through the existing reporting mechanisms.

2. Diesel Vehicle PM10 Emissions Show Decline in London

Emissions of particulate matter PM10 from diesel exhausts in London have shown a 'significant decline' in recent years, according to the Department for the Environment, Food and Rural Affairs (Defra). Figures revealed by Defra minister Dan Rogerson show that diesel emissions for black cabs, diesel cars, heavy goods vehicles (HGVs), buses and coaches have all fallen over the ten years from 2002 to 2011.

The figures were revealed in response to a written parliamentary question from Labor MP for Poplar and Limehouse, Jim Fitzpatrick, who asked for information on the level and trend in particulate emissions from diesel vehicles in central and Greater London. Mr. Rogerson answered that, according to the most recent data based on annual estimates by the National Atmospheric Emissions Inventory (NAEI), there has been a 'significant decline in diesel exhaust emissions over this period'. In total, exhaust PM10 emissions from a range of diesel vehicles in central London have declined from 0.107 kilotons in 2002 to 0.038 kilotons in 2011, with the biggest reduction appearing to come from buses and coaches. And, figures for Greater London show that overall there has been an even larger decline in PM10 emissions from diesel vehicles from 1.209 kilotons in 2002 to 0.540 kilotons in 2011.

However, the data – available on Hansard – suggests that the biggest fall in PM10 emissions appears to have come from diesel light goods vehicles.

Furthermore, Mr. Rogerson also said he expected to have new projections for when the UK is likely to comply with EU air quality standards in 2014.

Mr. Fitzpatrick asked the Defra minister when London was expected to comply with EU air quality legal requirements; currently, London is expected to be compliant with limit values for PM2.5 by 2020 when the legal requirements for fine particulates come into force, but it is not expected to meet EU limits for nitrogen dioxide until 2025. And, the minister said that although central London is compliant with the ozone target value for health, it currently exceeds the non-mandatory, long-term objective for this pollutant, adding that 'no projections are available for when we expect it to meet this objective'.

[10] In the EU, in 2005 NOx and SO2 emissions from international shipping were equivalent to about 25% and 21% of the land-based emissions. While NOx emissions from land sources are expected by 2030 to be 65% lower, on business as usual shipping emissions would reduce only 2%.

Meanwhile, London is compliant with EU limits on the pollutant benzo[a]pyrene, according to Mr. Rogerson, but 'does not currently meet the non-mandatory national objective for this pollutant as set out in the Air Quality Strategy 2007'.

3. Better Monitoring of Black Carbon Needed To Assess Health and Climate Change Impacts

Black carbon is an air pollutant which harms human health and can contribute to climate change – so cutting emissions may have many benefits. The European Environment Agency (EEA) has recently published a report[11] on the measurement of black carbon in the air which looks at the monitoring networks currently measuring black carbon, measurement methodologies and how this data is used.

Image © Roberto Venturini

As the effects of this pollutant have become better understood in recent years, it is increasingly seen as an important target of environmental control. Authors of the EEA report hope that the study will encourage more comprehensive monitoring of this pollutant, which is currently patchy.

Black carbon is the sooty part of particulate matter (PM) formed by the incomplete combustion of fossil fuels and biomass. It is mostly emitted by vehicles, non-road mobile machinery such as forestry machines, ships, coal or wood burning stoves in homes. Another important source is open biomass burning including forest fires and agricultural waste burning.

Of all air pollutants, PM is the most harmful to health in Europe. The black carbon part of PM is particularly harmful according to the report as it represents a mixture of very fine, partly carcinogenic particles, small enough to enter the bloodstream and reach other organs.

There is currently a lively debate about whether reducing this pollutant could have significant gains in reducing climate change, with a recent study suggesting that black carbon's effect on the climate is more potent than previously thought. In the atmosphere the carbon-containing pollutant effectively absorbs solar radiation leading to a warming of the atmosphere. When it settles on snow or ice, the darker color absorbs more heat, accelerating melting.

4. Leaked Bulldozer Emissions Assessment Appears Weak

A leaked Bulldozers emissions impact assessment shows the scope is likely to be more limited than expected. Further it is not included in the package of policy measures to combat air pollution just released. A review of the 1997 directive covering non-road diesel machines, which include bulldozers, excavators, mobile generators and barges, is now due. It was assumed that this would

[11] 'Status of black carbon monitoring in ambient air in Europe'

be included in the air quality package, but the proposal has been held up within the Commission and is now not expected until March or April of next year.

The impact assessment also does not assess ultra-fine particles from the largest diesel engines greater than 560kw. These include mobile generators located in big construction sites which account for more than 10% of the land-based non-road mobile machinery emissions, and are expected to contribute to 20% in 2020. The omission of this type of pollution from the impact assessment indicates that the proposal will not regulate one-fifth of the emissions from the machines under the scope.

The ambition of the assessment, which has not yet been made public, also appears limited. The most ambitious scenario it examines is reportedly less stringent than the minimum limits set for road vehicles – the Euro VI standards. Campaigners have also complained that the assessment is using an outdated method from 2008 for estimating the cost of air pollution and also does not take into account recent scientific evidence such as a report last year from the World Health Organization which demonstrated a link between diesel fumes and cancer.

5. Greece Highlights Environmental Priorities For Presidency of the EU Council.

Greek Minister of the Environment, Energy and Climate Change, Yiannis Maniatis, met recently (4.12.2013) in Athens with representatives of the Brussels-based American Chamber of Commerce to the European Union. The meeting, which was also attended by General Secretary for Energy and Climate Change, Costas Mathioudakis, and Special Secretary for Water, Kostas Triantis, focused on the upcoming Greek Presidency in the first half of 2014.

Maniatis presented the priorities of the Greek Presidency in matters concerning the environment, energy and climate change, as well as the agenda of the Councils in which Greece seeks to place growth and job creation, especially for young Europeans, at the center of debate, an approach that the representatives of the American Chamber of Commerce acknowledged as an important initiative.

Maniatis stressed the necessity of reforms that can bring new investments to Europe, while environmental protection, the quality of the natural environment and the sustainable management of natural resources should be safeguarded. In this context, Greece will bring into the debate issues such as the targets for 'Energy - Climate Change 2030 ", the energy cost of industry, the protection of vulnerable consumers, energy security and energy-saving.

At the same time, Greece will highlight issues such as the protection of European biodiversity, 'blue' development and maritime spatial planning that offer opportunities for investment and employment, as well as on how to get the European Union to focus on sustainability and the horizontal "greening" of all actions and individual sectors (rural development, tourism, industry, etc.).

6. EU Ministers Fail To Agree On Biofuels Reform

Energy ministers have failed to reach a deal on reforming the EU's biofuels laws, with some pushing for a more generous regime for conventional, food-based fuels, while others argued for a more radical plan than that currently on the table. The EU executive's 2012 proposal to limit the use of controversial food-based biofuels is likely on hold until at least the second half of next year, as neither MEPs nor member states have managed to agree internal positions with which they could negotiate with each other.

Member states' widely divergent views on the issue after almost six months of negotiations means an uphill struggle for the incoming Greek presidency, which must now take over responsibility for forging a common council position. The Lithuanian presidency's proposed compromise was to cap the amount of food-based biofuels that could count towards the EU's renewable energy target for transport fuels at 7%, up from 5% under the European Commission proposal. But a blocking minority of countries could not agree to this.

Denmark, the Netherlands, Belgium and Luxembourg pushed for a tighter limit on food-based fuels, while Poland and Hungary wanted the opposite. Germany, Belgium and Portugal reportedly expressed concern about double-counting provisions, which would have watered down the EU's overall 20% renewables target.

Climate commissioner Connie Hedegaard said an "unholy alliance of the most and least ambitious" had "blocked progress". Waiting for lawmakers to make up their minds means uncertainty for the biofuel industry, she said.

Campaign group T&E said the rejected 7% plan would have caused an additional 400 million tons of CO2 to be emitted relative to the commission's proposal, "equivalent to adding nine million extra cars to Europe's roads by 2020". And the "mere reporting" of indirect land-use change emissions (ILUC), as set out in the compromise text, "would have allowed biofuels that produce more emissions than conventional fuels to still count towards the [transport target]", it noted.

7. Report: EU Can Cut Import Dependence and Food Prices By Ditching Biofuels Mandates

If Europe were to rule out its support of biofuels by 2020, the region could lower its net imports of grain and oilseeds by up to 27 million tons, remarkably reducing its dependence on foreign goods. Global food prices could also drop significantly. These are the main findings of a new report[12] by Oxfam and the Heinrich Böll Foundation. "Fixing the EU's misguided biofuel policy is long overdue. Political support for biofuels made from crops such as grain or oilseeds should run out over the next years", explains one of the authors of the study, Prof. Dr. Harald Grethe of the University of Hohenheim

According to the report, if the EU were to drop its current biofuel policy by 2020, the global prices of plant oils would drop by 16 percent compared to a situation with the current biofuel mandates remaining in place. It would also see oilseed prices fall by around 10 percent, with wheat prices also decreasing by about 4 percent.

"Less biofuels would mean more food security. Cutting down the cost of basic foodstuffs would certainly help those living in poverty", explained Marita Wiggerthale, agricultural expert with Oxfam.

"If the EU continues to support biofuels, we'll be importing 85 percent of the resources required for biofuels production in the future. This would mean a huge increase in import dependency", said Christine Chemnitz, adviser for international agricultural policy at the Heinrich Boll Foundation.

[12] Biofuels: Effects on Global Agricultural Prices and Climate Change

In relation to climate change, the report issues a scathing assessment of both biofuels and the related European policy: "The main argument for biofuels, namely their attractiveness as a low-carbon and thus more climate friendly alternative to fossil fuels, is simply not right if we include the indirect land use change and intensification effects ", said Ms. Chemnitz.

8. Ministers Strip Targets from Alternative Fuels Proposal

MEPs and member states could be set for heated talks on how to boost the refueling infrastructure for alternative fuels after transport ministers confirmed their opposition to targets at a recent meeting. The European Commission's proposal from January set national and EU-wide targets for electric, hydrogen, and natural gas charging points for road vehicles and ships. The parliament's transport committee backed this idea and suggested the targets be expanded to all modes of transport, including aviation.

However, some member states feared the targets would be a major burden and several large countries reportedly blocked any consideration of targets, including the Czech Republic, Germany, Hungary, Spain and the UK. There was also concern over the imposition of standard rules given the considerable variation between countries' current infrastructure and national ambitions.

The recently adopted formal position says member states should develop their own targets to apply from 2030. Targets for hydrogen refueling points should be optional and member states need only install electric charging points in ports if there is demand and the benefits outweigh the costs. The ministers backed the establishment of national policy frameworks on alternative fuel infrastructure, common technical specifications to make all recharge and refueling points interoperable, and the need for rules on information for consumers. "Giving full flexibility... should give member states enough time to carry out comprehensive analyses of their situations, establish accurate figures and determine targets that will provide realistic signals to the market," they said in a statement.

But seven member states are understood to have had regrets about the dilution of the commission's proposal, especially with regard to electric cars. This group includes Denmark, France, Italy, the Netherlands and Belgium.

Cecile Toubeau of NGO T&E says the council position is a disappointment and rather contradictory given some countries' public stance on alternative fuels. Germany, for instance, has pledged have a million electric cars on the road by 2020. Without targets, there is not likely to be any investment, she says, adding that the commission might have been better off setting a baseline target and concentrating on the vehicle infrastructure in urban areas and along the TEN-T trans-European network where funding is available for improvements.

9. Air Pollution Strikes Across Europe

Paris Put on Air-Pollution Alert as Cold Snap Traps Diesel Fumes

Paris was put on an air-pollution alert recently as cold weather entrapped diesel fumes, leading to the most severe smog in the French capital since 2007. The pollution index reached the highest of five levels for fine particulates, according to Airparif, which monitors air quality. The government urged reduced auto speeds on main roads and asked people to refrain from driving diesel vehicles lacking proper filters and from lighting up wood fireplaces.

The pollution alert may reignite debate over taxes on diesel fuel, which in France are lower than for gasoline. Environmental groups have urged the government to align the levies while carmakers such as PSA Peugeot Citroen (UG) have resisted the move. "Irresponsible policies" that encourage the use of diesel are causing the pollution, Deputy Paris Mayor Anne Hidalgo said on France Info.

The pollution alert was extended to a dozen French regions hit by a cold snap that pushed temperatures below freezing. The warnings included Alsace and Normandy as well as the southern Mediterranean area around Nice.

"Bad air quality from particulates" can provoke allergic and asthmatic symptoms, Environment Minister Philippe Martin said in a statement. Airparif put its air-pollution index at the highest level because the concentration of PM_{10} was poised to be greater than 100 micrograms per cubic meter. "The current period of pollution is equivalent to one last experienced in 2007," Arthur de Pas, a spokesman for Airparif, said. Airparif has warned in the past that residents of the French capital suffer from "chronically high levels" of pollutants such as nitrogen dioxide and particulates.

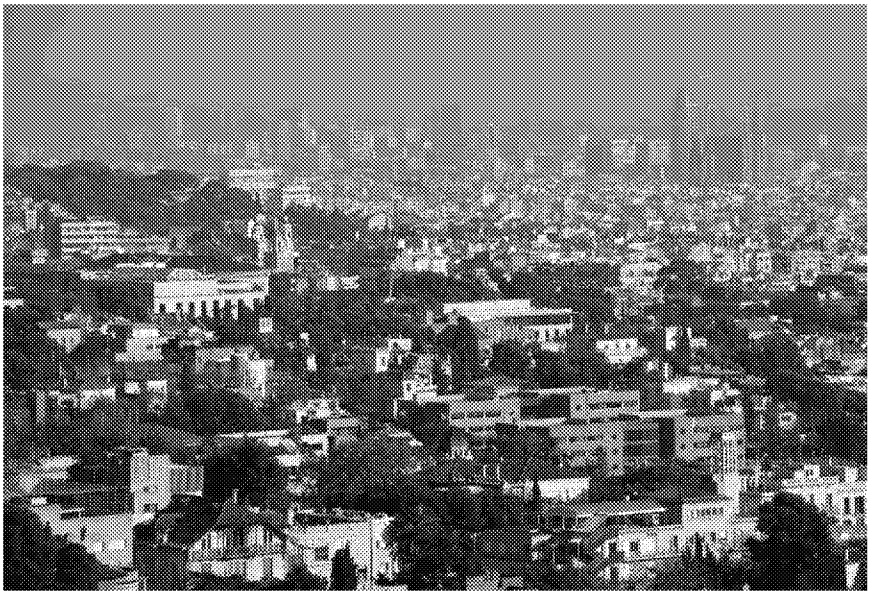
France has been put on notice by the European Commission for not respecting rules on emissions of PM_{10}. For this episode, the Paris mayor made residential parking free in a bid to get people to leave their cars at home and use mass transit. Speed limits were lowered along the Parisian ring road and major arteries leading to the French capital that are typically clogged with commuters during weekdays, the Paris mayor's office said on its website.

Air Pollution Alert Raised In Barcelona

Authorities have raised an air pollution alert for the Spanish city of Barcelona, a major tourist draw which has lain for days under a toxic grey mist, according to officials.

"High atmospheric pressure and a lack of wind are preventing the dispersal of polluting emissions, which are accumulating over the city," said a spokeswoman for the Catalonia regional government.

As the mist obscured the city skyline, the government issued an alert in a bid to reduce gas emissions, said the spokeswoman.



It lowered the speed limit for traffic, urged citizens to use public transport and asked factories to reduce their activity in the city of 1.6 million residents.

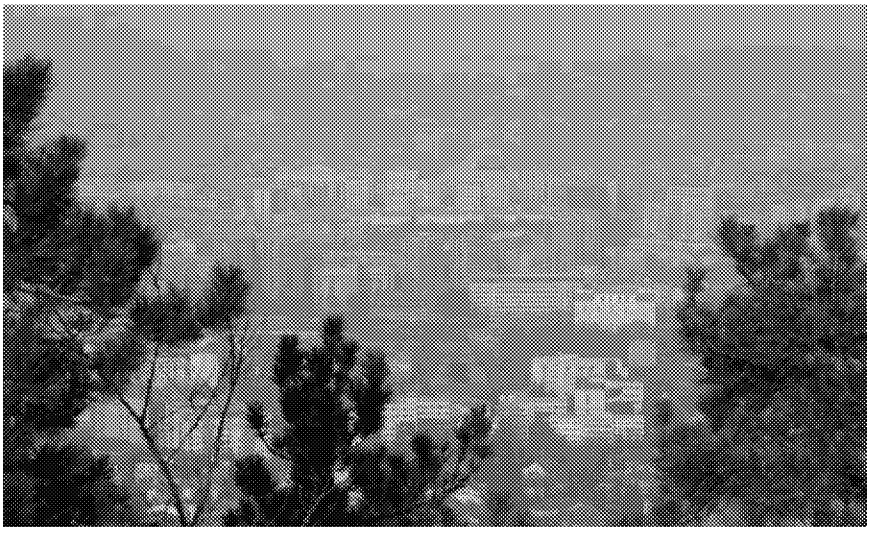
The level of toxic nitrogen oxide gas in the air had risen above the European Union legal limit seven times since December 4, the spokeswoman said, adding however that these exceptional rises did not threaten people's health.

A general view shows the Catalan city of Barcelona shrouded by haze on December 9, 2013

Barcelona draws millions of tourists a year for its nearby beaches and city sights such as the decorative architecture of Antoni Gaudi, including the Sagrada Familia cathedral.

But it also has one of the densest concentrations of motor vehicles in Europe and pollution gets trapped by the surrounding mountains, the spokeswoman said.

Macedonia Takes Precautions Against Air Pollution



In this picture taken on Sunday, Dec. 15, 2013, buildings can be seen through the polluted air over Macedonia's capital Skopje, from Vodno Mountain just above the city.

SKOPJE, Macedonia — Macedonia's government has imposed emergency measures in four cities, including Skopje, the capital, to address heavy air pollution caused by traffic and wood- and oil-burning heating systems.

For the past six days, airborne particle concentrations in the cities have exceeded the highest permissible levels during freezing winter weather. In response, the Environment Ministry instructed private companies and state institutions in the four cities to let pregnant woman and employees over the age of 60 remain at home. Kindergartens and primary and secondary schools

also were advised to avoid outdoor activities, and construction workers were warned to avoid work before 11 a.m. and after 5 p.m.

Trucks will also be banned from the city centers from 7 a.m. to 7 p.m.

Air Pollution Grips Bosnian Town

Bosnian people walking on the street during heavy smog in the northern Bosnian town of Tuzla, 140 kms. north of Sarajevo, on Monday, Dec. 16, 2013. Due to heavy fog and air pollution visibility was down to 10 meters (33-feet). Medical officials urged people not to spend too much time outdoors, with particular warnings issued to those suffering from respiratory or heart diseases.

ZENICA, Bosnia-Herzegovina — Authorities have ordered factories and homes to stop burning coal in a central Bosnian town where air pollution has reached alarming levels.

Zenica is an industrial town that produces steel and where many homes are heated by burning coal. That sometimes leads to significant air pollution.

Samir Lemes of the citizens association Eco Forum said the concentration of sulfur-dioxide in Zenica's air reached 1.400 micrograms per cubic meter, far above the acceptable concentration of 350 micrograms.

Authorities ordered factories to stop production if they have no alternative to burning coal. Families were told to begin burning wood to heat their homes.

The cities of Tuzla and Sarajevo were suffering heavy fog, partly the result of air pollution, but no orders about the burning of coal were given.

10. EU Moves Toward More Flexibility in 2020 Limits on Cars' Carbon Dioxide Emissions

The European Parliament and the EU Council have resolved a dispute over a modification to a draft European Union regulation on carbon dioxide emissions from private cars to give German automakers more time to meet new limits. Meeting in Brussels on November 26th, negotiators from the two institutions agreed that an average carbon dioxide limit of 95 grams per kilometer (g/km), or 152 grams per mile, should be met by 95 percent of new vehicles sold in the EU in 2020 and by all cars in 2021. The agreement is subject to ratification by both institutions.

In addition, manufacturers would be given more flexibility to use "super credits," or offsets granted for electric cars and other "clean" vehicles, to avoid penalties in case their standard vehicle fleets exceed the 95 g/km limit.

The European Commission, the EU's executive arm, proposed in July 2012 that all new cars sold in the bloc should on average meet the 95 g/km limit by 2020. An informal agreement was reached by the Parliament and the EU Council in June, supporting the proposal. Germany blocked ratification of the June informal agreement, arguing that the 95 g/km limit should be phased in through 2024 to give automakers, especially German manufacturers of large luxury cars, more time to comply.

The regulation would impose an "excess emissions premium" of 95 euros ($129) per g/km per vehicle above 95 g/km, and Germany feared its automakers wouldn't be able to implement fuel efficiency improvements, and therefore reductions in emissions per kilometer, quickly enough.

Reopening of negotiations after provisional agreements have been adopted by the European Parliament and EU Council is rare, and Germany was criticized for its intervention. Matthias Groote, a German center-left lawmaker who heads the European Parliament's Environment Committee, said in a statement on November 26th that the reopening of negotiations on the regulation "sets a dangerous precedent among the institutions. We must ensure that this doesn't happen again."

Groote added: "Our objective was to stand firm and not weaken our targets, in order not to hold back innovation in the car industry and EU efforts against climate change. We accepted a very limited phase-in of one year only, combined with super credits."

The European Parliament is scheduled to vote in January to ratify the revised agreement. The EU Council is expected to endorse it at a forthcoming meeting.

11. EU May Extend Freeze on Limiting Foreign Flights' Emissions to 2020

The European Union may decide in the next five months to extend a freeze on greenhouse gas emissions limits for foreign flights to as long as 2020, an EU adviser said. EU lawmakers will consider the position of nations, including the U.K., that are unwilling to have the bloc's emission limits imposed on flights outside the region, Pierre Dechamps, an adviser for energy and climate change at the Bureau of European Policy Advisers, said on December 5th. The bureau reports to European Commission President Jose Manuel Barroso.

The EU's suspension of emissions curbs on international flights applied to 2012 and was called stop-the-clock. Unless the bloc renews or changes the rules by April 30, airlines have to hand in allowances to match their 2013 emissions.

The U.K. said in November that it will seek to extend the halt, which was brought in to avoid trade conflicts and enable global talks on ways to curb aviation emissions. "I perfectly understand the point of the U.K. in this," Dechamps said at the Westminster Energy, Environment and Transport Forum in London. "It could well be that, in the end, we rather go toward an extension of stop-the-clock until 2016 or even maybe 2020. It's probably still in the right direction." Dechamps said he was speaking in a personal capacity rather than on behalf of the Commission, the EU's regulatory arm.

The United Nations' International Civil Aviation Organization agreed in October to complete a plan in the next three years for an aviation emissions market to start in 2020. Envoys at the meeting in Montreal declined to validate the EU's plan to include foreign flights in its emissions trading system before the start of the global program.

The commission is proposing to make the regional portion of foreign flights subject to emission curbs from 2014, which the U.K. is seeking to modify. The commission's proposal "doesn't reflect global politics or reality," Niall Mackenzie, head of industrial energy efficiency at the U.K.'s DECC, said at the London forum. "If the main prize is a global system, and we're working towards that, why do you go and antagonize third countries?"

12. Energy Groups Say EU Commission Lacks Climate Ambition

EU policymakers have bowed to industry concerns about the cost of environment policy without even exploring the potential for deeper emissions cuts, green energy groups said in a letter to the European Commission. The Commission, the EU executive, is expected to unveil in January its vision on 2030 energy and environment policy to follow 2020 goals on cutting carbon emissions, improving energy efficiency and increasing use of renewable power.

If the European Union succeeds in agreeing a 2030 carbon-cutting goal, it would be the first major bloc to do so ahead of a new global deal on climate change expected in 2015.

In their letter to Commission Secretary-General Catherine Day dated November 21, three umbrella groups representing scores of EU businesses - the Coalition for Energy Savings, the European Renewable Energy Council and the Climate Action Network - argue the Commission's assessment of the impact of 2030 goals "falls short of the necessary standards". In particular, the letter says the assessment does not include a wide enough range of options and puts politics before scientific analysis.

"We found the lack of a greenhouse gas reduction scenario of more than 45 percent to be inexplicable when a broad range of qualified stakeholders, including governments, are calling for a reduction of 50 percent, 55 percent and more," the letter says. Britain, for instance, has called for a 50 percent goal, although 10 percent of this could come from offsets bought on the global market, leaving only 40 percent from harder-to-achieve domestic cuts.

EU sources have said the policy document in January is likely to settle on a carbon-cutting goal of 40 percent, which would be debated by the bloc's leaders at a summit in March. That could be accompanied by a goal to get 30 percent of energy from renewable sources, but probably at an EU-wide level, rather than through binding national targets, leaving some nations to do more and others less.

The Commission has said it is premature to agree on another energy-savings goal after difficult negotiations last year on enforcing the existing target of a 20 percent improvement in energy efficiency compared with business as usual.

Campaigners say a glaring example of the Commission closing its mind to deeper emissions-cutting scenarios is a paragraph in a draft stating renewable scenarios of more than 35 percent were not analyzed "in full detail" because they would mean a more than 45 percent cut in emissions or clashed, for instance, with some member states' plans on nuclear energy.

13. UK Finds Green Buses May Not Improve Air Quality As Much As Previously Thought

Whole vehicle testing is the best way to ensure air quality improvements from hybrid buses and HGVs – which may not be as green as originally thought. That's the key finding of a new study

from the Low Carbon Vehicle Partnership (LowCVP), which commissioned a review of the air quality impacts from the growing numbers of low-carbon buses in the UK.

With around 1,300 low-carbon buses now in operation, the report – prepared by engineering consultancy Ricardo – recommends that legislation needs to consider hybrid technology impacts in the test processes in order to avoid unintended consequences, in terms of local emissions in urban areas.

Reviewing worldwide test processes for HGV engines, the report says that Euro 6 emissions levels for diesel and gas engines should be roughly the same. However, limited whole vehicle test data shows that improvements, in terms of regulated emissions often don't match test expectations, due to the actual operating cycles of engines on the road.

Transport for London's bus fleet had the most robust data, according to the study. It showed that carbon emissions, fuel consumption and local air quality emissions were lower for green buses. But, in some cases, hybrid vehicles showed higher emission levels per unit of fuel burned than conventional buses.

The study suggests that although technologies such as hybridization offer the prospect of significant reductions in fuel consumption and CO2 emissions, compared to conventional vehicles, the improvement in terms of regulated emissions may not be so great. They recommend that buses – both conventional and hybrid, and fossil and alternatively fuelled – should be optimized over drive cycles more representative of their real operational use.

14. New Car Engines Emit More Harmful Particles than Predecessors: Study

New-generation petrol engines of passenger cars emit about 1,000 times more particles, including carcinogens, than traditional petrol engines, a study by German researchers showed.

Faced with strict CO2 limits, carmakers have downsized engines to cut emissions and new gasoline direct injection (GDI) petrol engines may be in almost all new petrol cars sold in Europe by the end of the decade, the Brussels-based Transport & Environment think-tank said in a research paper. However, Germany's TUeV Nord independent vehicle researchers said in a study that GDI engines emit about 1,000 times more particles, including harmful carcinogens, than conventional petrol engines, and 10 times more than new diesel engines.

Increased emissions of harmful substances are caused by GDI engines operating with higher pressure in their cylinders, tending to produce a greater amount of the particles, according to Hanover-based TUeV Nord.

"Cars are the largest source of air pollution in Europe's cities and 90 percent of European citizens are already exposed to harmful levels of particle pollution," Greg Archer, clean vehicles manager at Transport & Environment, said in the report. "More fuel-efficient, lower CO2 GDI engines would be a great innovation if they did not emit harmful particles. These particles can be eliminated for the price of a hands-free kit," Archer said.

NORTH AMERICA

15. U.S. 2012 Model Vehicles Hit Record Fuel Efficiency: EPA

The average fuel economy of vehicles sold in the United States hit a record high 23.6 miles per gallon (mpg) for the model year 2012, the U.S. Environmental Protection Agency has announced. Projections for the model 2013 year indicate a rise of 0.4 mpg, the EPA said, though the agency added that it did not yet have final data for 2013.

The 23.6-mpg reading for 2012 was a 1.2 mpg increase over the previous year and the second largest increase in the last 30 years, the EPA said. The boost is part of a trend that has seen fuel economy increase by 2.6 mpg, or 12 percent, since 2008, and by 4.3 mpg, or 22 percent, since 2004, according to the EPA.

Automakers reported an 8.9 percent rise in U.S. sales in November from a year earlier with a seasonally adjusted annualized rate of sales reaching 16.41 million vehicles.

The highest adjusted (as defined by the EPA) fuel economy rating among automakers was achieved by Mazda, with model year 2012 rating on all its cars and trucks of 27.1 miles per gallon. Honda ranked second with a fleetwide rating of 26.6 mpg, followed by Volkswagen at 25.8 mpg, and Toyota at 25.6 mpg. The best-rated U.S. carmaker's fleet came from Ford with a fuel economy score of 22.8 mpg, followed by General Motors at 21.7 mpg, and Chrysler at 20.1 mpg.

Pickup truck and SUV sales at all three U.S. automakers drag down their overall fleet ratings. Ford cars, for example, average 27.2 mpg, while Ford trucks managed just 18.5 mpg. GM's Chevrolet cars posted a fuel economy rating of 25.7 mpg while Chevy pickups could manage just 18 mpg. Chrysler's Dodge Ram pickups posted just 16.1 mpg.

In carbon dioxide emissions, U.S. automakers performed worse than the 2012 average of 376 grams per mile. Ford vehicles emitted 390 grams per mile while GM vehicles came in at 410 grams per mile and Chrysler was worst of all makers at 442 grams per mile.

Alternative fuel vehicles are also included on fuel economy estimates in mile per gallon equivalent (mpge) and carbon dioxide emissions. All electric vehicles like the Nissan Leaf or the Model S from Tesla Motors emit no tailpipe carbon dioxide, which a Toyota Prius plug-in hybrid emits at 133 grams per mile and the Ford C-MAX and Fusion models emit 110 grams per mile.

The mileage ratings are based on converting electricity consumption data into an equivalent amount of energy as contained in a gallon of gasoline. For a Tesla Model S with the 85kW-hr battery pack that works out to 89 mpge. The highest rated vehicle is the Scion from Toyota at 121 mpge.

16. D.C. Circuit Scraps Truck NOx Control Waiver Rule

The U.S. Court of Appeals for the District of Columbia Circuit has scrapped an EPA rule that provided waivers to truck maker Navistar to continue selling heavy-duty engines that exceeded nitrogen oxides (NOx) limits, finding the agency did not provide adequate notice about its plans to alter its policy on when it will provide waivers. The three-judge panel's unanimous December 11th ruling is the latest development in a long-running legal battle in which major truck manufacturers have filed four lawsuits challenging EPA rules and their related waivers, called certificates of conformity, that have allowed Navistar to continue selling engines by paying a per-engine penalty. The truck manufacturers say the rules, issued last year, have "tilted the playing field" in favor of Navistar.

The opinion in Daimler Trucks North America LLC et al. v. EPA will block EPA from providing any further certificates of conformity to Navistar that cover 2014 engines, given that there is no longer a valid waiver rule. But it is unclear if truck manufactures will prevail in their pending legal effort to scrap certificates of conformity issued in 2013 and to potentially file Clean Air Act enforcement suits against Navistar for selling engines that lack valid certificates.

EPA last year -- first in an interim final rule that took effect immediately and later in a final rule -- established a "nonconformance penalty" that allowed Navistar to purchase certificates to allow them to continue to manufacture and sell heavy-duty truck engines that exceeded a NOx emission limit of 0.2 grams per brake-horsepower that came into effect in 2010. The interim rule set a per-engine penalty of $1,919, while the final rule set a $3,775 penalty.

The D.C. Circuit last year, in response to the first truck manufacturer lawsuit, vacated the interim final rule, finding that EPA was not justified in avoiding typical notice-and-comment rulemaking procedures, but the court in response to a second lawsuit declined to scrap the $1,919 per-engine certificates of conformity, finding the case was moot because the engines were already sold.

In the recent Daimler Trucks decision, responding to the third truck manufacturer lawsuit that went through oral arguments on Oct. 22, the D.C. Circuit found that EPA had again failed to provide adequate notice, this time about a change to its own regulations called the "substantial work" criterion that defines when it is warranted to provide Clean Air Act waivers to truck engine manufacturers. For 27 years EPA had a definition that it would be warranted to provide the engine waivers if "substantial work will be required" to meet the emission standard. In the 2012 proposed and final rules, however, EPA said that the waivers were warranted if "substantial work was required" to meet the NOx standard. The truck manufacturers said that EPA had failed to provide adequate notice that the agency was planning to amend its regulatory definitions, and the D.C. Circuit in its ruling agreed, finding that although EPA had used the "was required" language in its proposed rule and other documents, the agency had not clearly announced plans to make the definition change.

With the ruling, the truck manufacturers will be able to pursue their pending lawsuit challenging the 2013 engine certificates of conformity, a case that had been stayed in the D.C. Circuit, though they could face the same mootness issue of the second lawsuit if the case drags well into next year, at which point the engines at issue may have already been sold.

17. Advanced Biofuels Could Remove Blend Wall, Senate Panel Told

Continued support of developing next-generation transportation biofuels could create alternatives that existing engines and distribution systems can safely handle, two federal government witnesses suggested. This would eliminate the blend wall that the US has hit with growing amounts of corn-based ethanol required under the Renewable Fuel Standard amid reduced gasoline demand, they told the US Senate Environment and Public Works Committee and its Clean Air and Nuclear Safety Subcommittee.

The US Department of Energy and the bioenergy community are using cellulosic ethanol research, development, and demonstration successes to accelerate cellulosic and algal “drop-in” biofuel technologies that can be used to displace petroleum-based gasoline, diesel, and jet fuel, said Steven Chalk, DOE’s deputy assistant secretary for renewable power. “Successful RD&D investments in cellulosic ethanol have provided foundational knowledge and capability at national laboratories, in industry, and at universities to develop the more challenging bio-based gasoline, diesel, and jet fuels,” he testified. Five biorefineries are in the early stages to commercially

produce cellulosic ethanol, "and we expect a very fast ramp-up," Chalk said. "We're committed to the RFS, and the process and checks and balances Congress provided. We think the long-term predictability of the RFS is vital to encourage investment."

"For most of the growth in the future, it's mostly about advanced biofuels," added Chris Grundler, who directs the US Environmental Protection Agency's Transportation and Air Quality Office. "Our cellulosic standard will be based on what can be produced in the coming year. As for market conditions that would incentivize more infrastructure, we are seeing progress." He said EPA believes its proposed framework for determining appropriate total renewable fuel and advanced biofuel volumes under the RFS would simultaneously address the ethanol blend wall and limitations in availability of qualifying renewable fuels. "Our proposal envisions more E15 and E85 being sold next year," Grundler said. "We got a variety of views at our public hearing last week, where we asked for updated information on sales and infrastructure."

Some of those views were restated at the committee's December 11th hearing. Wesley K. Clark, co-chairman of Growth Energy, which originally petitioned EPA to increase the allowable ethanol limit in gasoline from 10% to 15%, said the RFS has succeeded and does not need to be reformed. American Fuel & Petrochemical Manufacturers President Charles T. Drevna said it's not working properly and needs to be reworked and possibly repealed.

Jim Collins Jr., senior vice-president of industrial biosciences at DuPont Co.'s Performance Polymers and Packaging & Industrial Polymers Division, said the chemical manufacturer strongly supports the RFS based on its experience in corn-based ethanol and the significant potential it sees in cellulosic ethanol. "For the past 4 years in Iowa, we worked closely with farmers, equipment makers and academia on corn stover harvest trials to build and manage a cost-effective cellulose supply chain," he testified. "All this work culminated in the groundbreaking of a 30 million gal/year facility 1 year ago in central Iowa, approximately 40 miles north of Des Moines. I am happy to report that the construction is progressing on track and the facility is scheduled to begin producing its first gallons of cellulosic ethanol in the second half of 2014."

Collins said DuPont also is working with BP on a joint venture to develop and extensively test biobutanol, a higher alcohol fuel that is produced much like ethanol but has higher fuel qualities and better mileage. "It also reduces the volatility of fuel blends, and so can be used where summer air quality concerns persist," he explained. "It can be distributed by existing gasoline infrastructure, including pipelines. Lastly, biobutanol is more compatible with existing equipment, including small engines and marine engines."

Scott Faber, vice-president of government affairs at the Environmental Working Group, said, "Our view is we need an RFS. It's critically important to reduce the carbon intensity of our fuels, but we believe it's not working as the 2007 legislation intended." He suggested that the corn ethanol mandate be modified so producers have to meet greenhouse gas control requirements comparable to those for advanced biofuel producers. "Reducing the amount of corn ethanol we blend into gasoline would send a powerful signal to the investment money to put money into the second generation of technologies," Faber said. "The way we're managing it now has created a climate of likely litigation that has increased uncertainty."

Shortly after the hearing, US Senators Dianne Feinstein (D-Calif.) and Tom Coburn (R-Okla.) introduced a bill that would eliminate the corn ethanol mandate. "Under the corn ethanol mandate in the RFS, roughly 44% of US corn is diverted from food to fuel, pushing up the cost of food and animal feed and damaging the environment," Feinstein said. "Oil companies are also unable to blend more corn ethanol into gasoline without causing problems for automobiles, boats, and other

vehicles. "I strongly support requiring a shift to low-carbon advanced biofuel, including biodiesel, cellulosic ethanol, and other revolutionary fuels. But a corn ethanol mandate is simply bad policy," she continued.

"This misguided policy has cost taxpayers billions of dollars, increased fuel prices, and made our food more expensive," Coburn said. "Eliminating this mandate will let market forces, rather than political and parochial forces, determine how to diversify fuel supplies in an ever-changing marketplace."

Sens. Richard Burr (R-NC), Susan Collins (R-Maine), Bob Corker, (R-Tenn.), Kay Hagan (D-NC), Jeff Flake (R-Ariz.), Joe Manchin (D-W.Va.), James E. Risch (R-Idaho) and Patrick Toomey (R-Pa.) are co-sponsors.

The American Petroleum Institute immediately applauded Feinstein and Coburn's bill. "Repealing corn ethanol mandates is the first step toward protecting consumers from outdated and costly public policy," API Downstream Director Bob Greco said. "EPA's proposal to lower the 2014 mandates could provide a stopgap, but Congress needs to deliver a long-term solution to provide certainly for consumers," he maintained. "Requirements set back in 2007 could soon push ethanol levels in gasoline above what is safe for most cars on the road today."

18. Renewable Fuel Backers Try To Change EPA's Mind at Hearing

Supporters of the renewable fuels industry turned out en masse at a public meeting held by the Environmental Protection Agency on the Renewable Fuel Standard, desperate for the U.S. government to change course after last month announcing a plan to lower the amount of biofuels that must be added to the fuel supply in 2014. About 300 people attended the meeting. The number of stakeholders who signed up to testify - almost 150 - was 10 times or more the count at a similar meeting a year ago, an EPA official said.

The meeting comes nearly three weeks after the Obama administration proposed slashing how much renewable fuel - mostly corn-based ethanol - needs to be blended into the U.S. fuel supply. The 2007 law mandated a total of 18.15 billion gallons of renewable fuel blending next year. The EPA's proposal requires just 15.21 billion gallons. The EPA proposed cutting the corn ethanol portion of the 2014 mandate from the 14.4 billion gallons called for by law to about 13 billion. Based on projected gasoline demand, that level of ethanol use would be slightly less than 10 percent of total U.S. gasoline consumption.

Speakers ranged from representatives of the biofuels industry and petroleum refiners to anti-hunger groups, bakers, small-engine manufacturers, lawmakers and the governor of Iowa, the largest U.S. corn-producing state.

A panel of five EPA rule makers - including Chris Grundler, director of the EPA's Office of Transportation and Air Quality - listened intently as groups of five to six speakers came up in succession to state their positions.

The sprawling event showed the intense interest in the future of biofuels - and caps a year of fierce lobbying that has raged in Washington between pro- and anti-ethanol interests.

The EPA has warned that the country is approaching a point where the RFS would require the use of more ethanol than can be blended into gasoline at the 10 percent level that dominates the U.S. fueling infrastructure. Refiners have said this so-called "blend wall," if left in place, would

force them to export more fuel or produce less gasoline, leading to shortages and higher prices at the pump.

The use of a higher, 15 percent ethanol blend, known as E-15, is a big part of the debate. The EPA has declared E-15 safe for cars, SUVs and light trucks built from 2001 forward, now the majority of the U.S. fleet. But refiners say the blend risks damage to car engines, as well as chainsaws, boats and other equipment.

19. Refiners Fight 2013 RFS in Court as Senators Debate Program's Future

While EPA works to finalize the 2014 proposal, it is currently battling a U.S. Court of Appeals for the District of Columbia Circuit consolidated legal challenge by refiners over its 2013 RFS fuel targets. The American Petroleum Institute (API) and American Fuel and Petrochemical Manufacturers (AFPM) filed suit over the 2013 RFS, and in their December 9th opening brief the groups allege that the method the agency used to establish the standard is arbitrary and capricious, and runs contrary to EPA's statutory authority. The brief says "EPA's increase of the RFS during the compliance year is contrary to law and arbitrary and capricious."

The groups allege that EPA "impermissibly" tasked the Energy Information Administration (EIA) to conduct a second analysis of transportation fuel demand in 2013 without allowing stakeholders to comment on the analysis before making the 2013 requirements final, which API and AFPM argue violates statutory notice-and-comment requirements.

The brief claims that the agency gave no notice when it "switched from using the October 2012 EIA estimate of total transportation fuel, which is specifically required by the [Clean Air Act], to using a new, lower EIA estimate from May 2013, which had the effect of increasing obligated parties'" volumetric blending obligations.

They say the action is unprecedented since the RFS was established, and EPA "has never before used an EIA estimate other than the one provided in October of the preceding year . . . . The final rule is therefore not a 'logical outgrowth' of the proposed rule, and obligated parties were deprived of notice and an opportunity to comment."

API and AFPM also claim that EPA erred because it included an exemption for small refineries in the final version of the 2013 RFS, but did not include the exemption in the earlier proposed version of the rule. The exemption increases the amount of fuel required to be blended by the obligated parties, thus depriving "obligated parties of the regulatory certainty that Congress intended and that EPA has repeatedly acknowledged is necessary."

The groups also argue that the agency's blending requirements for cellulosic biofuels are arbitrary and capricious, and violated the DC Circuit's previous orders admonishing the agency's method in determining how much fuel is able to be blended by refiners. The court ruled in January of 2013 that EPA in its 2012 RFS based the cellulosic volume requirement on projections that were far above production volumes based on available capacity.

EPA's opening brief in the litigation is due on January 30th.

20. Ontario Lags in Curbing Greenhouse Gases from Transportation Fuels, Official Says

The Ontario government has stalled in its efforts to reduce greenhouse gas emissions from transportation fuels, largely due to its failure to introduce a low-carbon fuel standard, provincial Environmental Commissioner Gord Miller said recently. The province committed in 2007, jointly with California, to reduce the carbon intensity of transportation fuels by 10 percent by 2020 from 2007 levels to reduce carbon dioxide emissions. But unlike California Ontario has made little progress toward implementing a low-carbon fuel standard to achieve that goal, Miller said in a statement on release of the second volume of his "Annual Energy Conservation Progress Report: 2012". The provincial government should transfer responsibility for developing and implementing a low-carbon fuel standard to the Ministry of the Environment from the Ministry of Energy, he said, as the environment ministry has a strong track record on fuel regulation, including minimum ethanol levels in gasoline and a proposal to require biodiesel use in motor fuels, he said.

Provincial Energy Minister Bob Chiarelli said that his ministry will review the report's comments and recommendations but added that the government's budget for fiscal 2013-2014 already included a promise to consult with stakeholders on a provincial mandate for greener diesel fuels. "As the province plans for Ontario's electricity needs for the next 20 years, conservation will be the first resource considered," Chiarelli said in a statement.

The Ontario government is taking other steps to improve fuel conservation, including the Ethanol in Gasoline Regulation, which since 2007 has required 5 percent minimum ethanol content in gasoline sold in the province, Beckie Codd-Downey, Chiarelli's press secretary, said. The province also has put in place tax incentives for the use of natural gas, propane and electricity by the transportation sector and supports new electric vehicle purchases through an incentive program administered by the Ministry of Transportation, Codd-Downey told the press.

On electricity conservation, Miller said it is unlikely Ontario's electricity distributors will meet 2014 targets set by the provincial government to reduce peak electricity demand by 1,330 megawatts from 2007 levels and total electricity consumption to 6 billion kilowatt-hours. At first glance, the new plan appears to have fewer and less ambitious target, he said. For example, there are no longer interim targets for peak demand or consumption, he said. However, the new plan proposes development of a new framework for conservation by electricity distributors to replace the one that expires in 2014, he said.

Chiarelli said that a new Long-Term Energy Plan, issued on December 2nd, includes a new target for total electricity consumption of 30 terawatt-hours by 2032, which would represent a 16 percent reduction from forecast gross demand in that year, and a target of using demand response to meet 10 percent of peak demand by 2025.

21. Ontario to Announce Lower Fees for Drive Clean Vehicle Emissions Tests

Ontario's Liberal government plans to lower the $35 fee for the Drive Clean vehicle emission tests. Drive Clean is supposed to be a revenue-neutral program to get cars that spew pollution off the road, but it is now turning a profit of $19 million. The government has promised to address the issue and lower the charge that drivers pay every two years to get their vehicles tested, but still haven't said what the new rate will be.

The Progressive Conservatives say Drive Clean, which was introduced in 1999, has outlived its usefulness and should be eliminated because most cars and light trucks easily pass the test. Ontario changed its Drive Clean procedures last January to use onboard diagnostic testing equipment instead of tail pipe emissions, which has led to an average 10 per cent failure rates.

The emissions tests are mandatory for vehicles at least seven years old.

22. Advocates Caution U.S.-EU Trade Deal Could Roll Back Regulatory Protections

As U.S. and European Union negotiators reconvened on December 16th to hammer out a sweeping trade agreement, public interest groups sounded the alarm that the deal could give big business a back channel through which to scale back essential environmental, labor, financial and consumer protections. The Transatlantic Trade and Investment Partnership (TTIP) would create a tariff-free trade zone between the U.S. and the EU, the world's two largest economies. The White House says TTIP will open European markets and stimulate U.S. economic growth.

Robert Weissman, president of Public Citizen, said during a conference call with reporters that the agreement is largely about resolving regulatory differences between the U.S. and the EU that may impede trade.

A White House fact sheet declares that TTIP will "significantly reduce the cost of differences in regulations and standards by promoting greater compatibility, transparency and cooperation," but also claims that high standards for U.S. health, safety and environmental protection will be maintained. Weissman said corporations are likely to use the negotiations to impose single standards for the U.S. and the EU, inevitably settling on the lowest common denominator.

For example, Michael Brune, executive director of the Sierra Club, said during the conference call that corporations on both sides of the Atlantic are engaged in a "feeding frenzy" to weaken rules on chemical safety, fossil fuels and labeling for genetically modified organisms. Weissman also said European corporations are challenging the so-called Volcker Rule that puts limits on the types of investments banks can make.

Regulatory protections should be determined through a democratic process, "not by a corporate-driven trade agreement," Brune said.

Some 70 corporations, including AT&T, British Petroleum, Ford Motor Co., Intel, Johnson & Johnson, Microsoft, Pfizer, Philip Morris Intl. and Verizon, belong to the Trans-Atlantic Business Council, the official forum between U.S. and EU business and government leaders for the TTIP talks. However, the details of the talks aren't known, because the talks are held in secret and transcripts haven't been made public, Weissman said.

Weissman further said harmonized standards are likely to come with restrictions that would bar regulators from moving to higher levels of protection over time, as new information becomes available or new threats arise. Precautionary measures, in the absence of certainty about consumer, environmental or other risks, would also be difficult to impose, he said.

The talks may also yield a regulatory cooperation council, a nontransparent "superagency" that would reach into both the U.S. and EU regulatory machinery to further impede already difficult rulemaking processes, Weissman said. Such a council would let corporations in Europe comment on U.S. rules before they are proposed and could even subject all significant rules to trade impact assessments, Weissman said. Both U.S. and EU negotiators have offered proposals to create such a council, according to Weissman.

Moreover, the TTIP negotiators have suggested a dispute resolution system that would give big companies special rights to challenge national laws, and to bring cases challenging regulatory action to secret tribunals made up of "corporate-friendly lawyers."

The pact is likely to increase the use of fossil fuels in Europe, Michael Brune, executive director of the Sierra Club said. EU negotiators have brought forward language that would limit the ability of governments to oversee fossil fuel exports, opening the floodgates for higher use of liquefied natural gas and locking both export and import nations into a cycle of mutual dependency.

Domestically, such an agreement could lead to more hydraulic fracking, Brune said.

Peter Chase, the U.S. Chamber of Commerce's vice president for Europe, told reporters in June that the talks will seek not to lower regulations, but rather will encourage U.S. and EU negotiators to "respect each other's regulations and find a way to, if possible, create a bridge between them." But Anna Fielder, senior policy advisor at the Transatlantic Consumer Dialogue, rejected those arguments during the conference call. A trade agreement could theoretically increase consumer welfare and wellbeing by raising the less-protective economy to the standard of the more-protective and spreading the use of best practices, Fielder said. "But we have very real doubts that achieving such a state of nirvana is possible," she said.

The negotiations that began on December 16th are the third round. Because the scope of the talks is so sweeping, a final agreement doesn't appear to be imminent.

23. Industry Warns Pending Court Ruling May Undo Consent Decree Certainty

Engine maker Volvo Powertrain is warning the U.S. Court of Appeals for the District of Columbia Circuit against issuing a ruling in a pending lawsuit that the company says could create uncertainty over future consent decrees between the agency and industry, saying the court should back Volvo Powertrain's push for certainty.

Attorney Aaron M. Streett, representing Volvo Powertrain, outlined the potential precedent of the court's eventual ruling at December 11th oral arguments in USA v. Volvo Powertrain Company, a suit in which the company seeks to overturn a federal district court ruling that awarded EPA and California millions of dollars in damages for its violation of a consent decree. The decree settled a years-old dispute between several engine makers and EPA over agency claims that engine makers used devices that allowed higher emissions in real-world conditions than under test conditions.

Volvo Powertrain is the successor company to Volvo Truck and inherited the settlement's obligations for its engines to meet prescribed emissions standards according to a timetable laid out in the decree.

The decree was subsequently extended to include non-road engines. But Volvo Powertrain, part of the Volvo Group of companies, says the court's enforcement of the expanded decree against it for infractions by Volvo Penta, a non-signatory to the pact, violates "bedrock" legal principles and creates uncertainty over the decrees.

Streett told the court at arguments that enforcing the decree against Volvo Powertrain because of infractions by the non-party Volvo Penta was unjustified. He also warned that the failure of a district court to weigh the case using the legal doctrine of "contempt," if upheld on appeal, will shake the faith of industry in consent decrees.

In a joint amicus brief filed with the court, the National Association of Manufacturers, U.S. Chamber of Commerce and the American Petroleum Institute also highlighted the precedent the

case could set, saying enforcement of the decree against a non-signatory will set a damaging precedent, damaging faith in the certainty of consent decrees.

Streett at arguments did not address the issue in such broad terms, but did tell a three-judge panel of the D.C. Circuit that the April 2012 ruling by the U.S. District Court for the District of Columbia wrongly failed to examine the matter under contempt standards. These require that a party seeking relief -- such as EPA -- must establish "by clear and convincing evidence" that the defendant violated a "clear and unambiguous provision of the consent decree."

"It is very important the contempt standard applies whenever the government seeks retrospective enforcement of a consent decree," Streett said. EPA's actions show the agency "doesn't want the protections" for companies "at the front end" that the contempt standard provides, he added.

Department of Justice attorney Brian Toth, representing EPA at arguments, said that even if the contempt doctrine were applied by the court, it is irrelevant because there is a "clear and unambiguous violation of the decree." Specifically, EPA says that Volvo Powertrain violated "non-circumvention" terms of the decree designed to prevent parties avoiding responsibility by spinning off operations to other corporate entities.

Judges David Sentelle, Thomas Griffith and Sri Srinivasan pressed both sides over the meaning of terms specific to the decree, but gave little indication of how they will decide the case -- and they avoided questions over the broader precedent for EPA consent decrees that their eventual ruling could set.

Sentelle and Griffith suggested that if read in isolation, some of the decree's terms include the engines certified by Volvo Penta, but Streett urged them to look at the issue in a broader context. Under questioning from Sentelle, Streett suggested that other ambiguities in the case still render the district court's judgment wrong -- such as whether the engines should have been classed as non-road engines, or instead as stationary engines clearly excluded from the decree. Toth countered that tracking the use of the engines to determine if they are stationary is not feasible.

Also, Streett said the lower court's application of the maximum penalties allowed warrants, at the very least, a remand of the judgment. The district court applied the penalty to all wrongly certified engines, even though many were never imported into the United States. Further, there was no "unjust enrichment" or "competitive advantage" bestowed by the certification, Streett argued, citing the standards used by the district court to determine that the maximum penalty should apply.

Griffith appeared somewhat sympathetic to Streett's position on when the anti-circumvention provisions are triggered. Griffith asked "isn't the trigger when someone seeks the certificate of conformity" with EPA standards? Streett replied, "That is absolutely the correct reading. There is nothing that connects Penta's certification of engines" to the consent decree.

Sentelle asked Streett to explain why the case seems to be "the equivalent of a contempt proceeding, but it is not a contempt proceeding." Streett replied that "it is the [retroactive] nature of the relief" that determines whether the doctrine applies, according to legal precedent, not whether the case is expressly labeled as such by the government or courts.

24. EPA Urged To Deny Mercedes' Request for 'Off-Cycle' Vehicle GHG Credits

California, some automakers and environmentalists are urging EPA to deny Mercedes-Benz' petition seeking credit for "off-cycle" greenhouse gas (GHG) reductions in the agency's model

year (MY) 2012-2016 vehicle GHG rule, saying that granting the request would set a precedent undermining the certainty of GHG cuts under the rule.

EPA took comment through October 31st on the company's petition, which is part of a process under the rule that allows manufacturers to submit for agency approval an alternative demonstration methodology to win higher off-cycle GHG credits than what the agency lists as default values and can be used to comply with the regulation. Off-cycle credits can be awarded for technologies that achieve real-world emissions cuts "but are not appropriately captured on the test procedures . . . to demonstrate compliance" with the rule, which requires automaker fleets to achieve a 35 mile per gallon (mpg) in 2016, EPA says.

Mercedes-Benz is the first company to submit such a petition, seeking credit for an engine start-stop technology that eliminates all emissions when a vehicle is idling. The company also wants credit for high-efficiency exterior lighting, infrared window glazing and active seat ventilation, according to the petition. The company argues that is should be entitled to GHG credits for a larger percent of driving time than EPA estimates vehicles idle in order to fully count the emissions reduced by its start-stop technology.

But the request is prompting significant push-back from California -- which worked closely with EPA to develop the MY 2012-2016 vehicle rule – other automakers and environmentalists. The California Air Resources Board (CARB) warns that approving the petition would reduce the expected GHG reduction benefits of the vehicle rule by allowing the company to obtain "unrealistic" off-cycle credits, while also setting a precedent for other automakers to seek similar credit. "[I]f this credit request is accepted, it will create a platform for manufacturers to undermine" the MY 2012-2016 rule as well as the final MY 2017-2025 program that sets fleet averages at 54.5 mpg, CARB Chairwoman Mary Nichols writes.

CARB says it backs the off-cycle credit petition program in general, but not Mercedes' petition as it would allow the company "to generate unrepresentative GHG credits and undermine the effectiveness of the rule." For example, the request for stop-start technology GHG credits is more than three times the value on an EPA-issued menu of options, with Mercedes claiming EPA's value was an underestimate, CARB says. "If a petition like this is accepted, it would set a precedent allowing manufacturers to derive their own credit values for off-cycle technologies that exceed the menu values while still being able to use the default menu values for technologies that fall short."

ASIA-PACIFIC

25. Recent Developments in China

China Launches Cleaner Gasoline Standards

China has launched its national "V" standard for gasoline which will become a national mandate from Jan 2018, the government said, as it moves to clean up smoggy air in the world's largest auto market and the second largest oil consumer. "The roll-out of the standard will help upgrade China's gasoline quality and reduce pollutants from vehicles," the General Administration of Quality Supervision, Inspection and Quarantine said on its website.

The new national V standard, similar to Euro V, will require gasoline to have a **sulfur content of no more than 10 parts per million (ppm)**, down from 50 ppm in the national IV standard, the administration said.

China is moving to the national IV standard, similar to the Euro IV standard for gasoline nation-wide from next month, though about a dozen cities have already started using the cleaner grade V, supplied by Sinopec Corp. China is now implementing the national III standard for gasoline — with sulfur content capped at 150 ppm — across the country. The national IV standard for gasoline will become compulsory nationwide from the start of 2014, the government said.

The new specifications of national V also require content of **manganese** — another health hazard — to be cut to 0.002 gram per liter from 0.008 gram, it said.

After the new standards take effect from January 1, 2018, emission from existing vehicles could be reduced by 10 to 15%, while emission of nitrogen oxide from new vehicles is expected to be cut by a quarter and emission of particulates by 80%, it added.

Worsening air pollution has prompted China to speed up a timetable for oil companies to roll out cleaner fuel standards, a move that will require refiners to pump in billions of dollars to upgrade facilities. Sinopec has supplied gasoline of quality similar to Euro V standards to Beijing since May 2012, and to Shanghai and eight cities in the booming eastern province of Jiangsu from November, the company has said. Its Jinling refinery in Jiangsu is now China's largest producer of Euro V gasoline, Sinopec has said.

China Likely to Meet Reduction Targets for Key Pollutants in 2013, Ministry Says

Chinese environmental minister Zhou Shengxian said he expects the country to meet annual reduction targets for four key pollutants by the end of 2013, according to a notice released by the Ministry of Environmental Protection on December 4th. The notice said the goals for meeting targets to reduce airborne emissions of sulfur dioxide and nitrogen oxides and for reducing levels of chemical oxygen demand (COD) and ammonia nitrogen in wastewater will likely be met. It based that conclusion on the reductions seen during the first six months of the year, pressure put on local governments to meet targets in the second half of the year, more utilization of desulfurization and denitrification equipment in industry and subsidies for energy conservation projects.

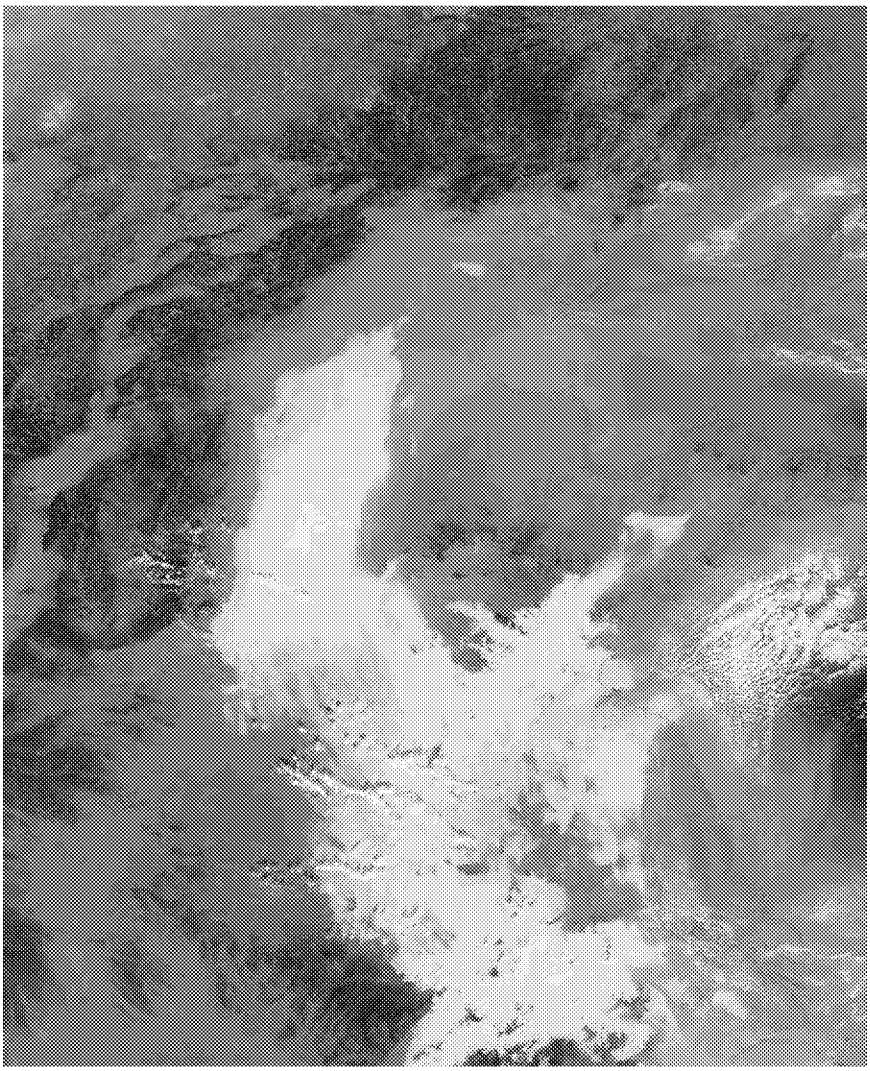
The notice said that COD readings dropped 2.37 percent, and ammonia nitrogen levels were down 2.37 percent nationally in the first half of the year, while sulfur dioxide was down 2.48 percent and nitrogen oxide down 3.02 percent nationally in the first half of the year, compared to the same period the year before.

Goals for the 12th Five-Year Plan (2011-2015) include reducing sulfur dioxide emissions and COD levels by 8 percent and for reducing emissions of nitrogen oxides and ammonia nitrogen by 10 percent by the end of 2015 compared to 2010 levels.

The meeting notice also said that air pollution prevention and treatment plans for the energy industry, as well as several implementation regulations related to coal-fired power facilities, will be released soon.

The MEP also is working on a plan for further reducing the four key pollutants for 2014.

China's Current Air Pollution Is So Bad, It's Visible From Space!



NASA image courtesy Jeff Schmaltz, LANCE MODIS Rapid Response

China is currently in the midst of battling a rather astonishing bout of air pollution, most notably in Shanghai and Beijing. Not only is this level of pollution extremely dangerous but it's so thick and blanketing that a new image from NASA shows the smog cloud from space.

The image shows a combination of both fog (white) and smog (grey). On the NASA Earth Observatory blog, they explain:

China suffered another severe bout of air pollution in December 2013. When the Moderate Resolution Imaging Spectroradiometer (MODIS) on NASA's Terra satellite acquired this image on December 7, 2013, thick haze stretched from Beijing to Shanghai, a distance of about 1,200 kilometers (750 miles). For comparison, that is about the distance between Boston, Massachusetts, and Raleigh, North Carolina. The brightest areas are clouds or fog. Polluted air appears gray. While northeastern China often faces outbreaks of extreme smog, it is less common for pollution to spread so far south.

At the time of this image, the Air Quality Index for Beijing hit 487 — anything above 300 is considered dangerous to human health. The US embassies in Beijing and Shanghai reported fine particulate matter up to 480 and 355 micrograms per cubic meter of air, where being above 25 is unsafe according to the World Health Organization.

This problem isn't unique to China. For decades, London had notoriously bad smog, which at one point killed 4,000 people over the course of just a few days. But what's new is that now we have a much better grasp of the damages this level of pollution can cause, and the technology to see

its full extent. Images like this one from NASA provide us with the context of this pollution — and shows just how incredibly large the problem really is.

Eight Chinese Cities Fined For Air Pollution

Local governments in eight cities in northeast China's Liaoning Province have been fined a total of 54.2 million Yuan (8.9 million U.S. dollars) for air pollution, the provincial department of environment protection said recently. The fines, the first the provincial agency has imposed on lower-level governments, send a clear signal that the provincial government is becoming more serious about tackling air pollution.

According to a regulation which went into effect last year, the Liaoning provincial government evaluates 14 cities on indicators of PM10 (particles less than 10 micrometers in diameter), sulfur dioxide and nitrogen dioxide. Shenyang, capital of Liaoning, was ordered to pay a fine of 34.6 million Yuan. Seven other cities, including Dalian and Anshan, were fined 19.6 million Yuan.

Zhu Jinghai, head of the provincial department of environment protection, said all the fines would be spent in the fight against severe air pollution.

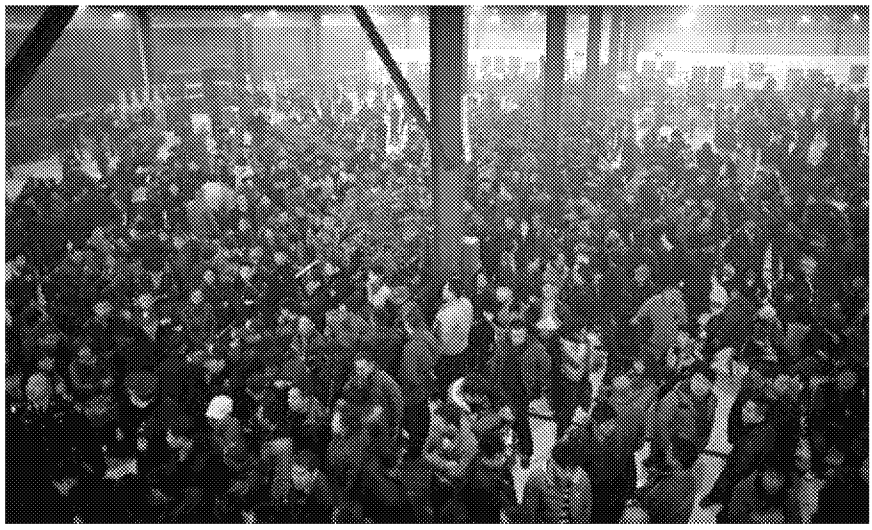
Decades of breakneck economic growth, the coal-dominated energy mix and lax environmental law enforcement are blamed for the prominent pollution in Liaoning and other parts of China. The public hailed a circular released recently on improving the work evaluations of local Party and government leadership and officials, which could lead to greener and more balanced growth. The circular said Chinese officials should reduce their obsession with economic growth and focus more on people's livelihoods and the environment.

Liaoning was one of the first provinces in China to industrialize and continues to rely on polluting heavy industries like machinery, metal refining, chemical, and petroleum and coal production. In October, it was one of three provinces in northeastern China that found itself suffocating beneath a blanket of smog so heavy that that some schools and roads had to be shut down.

"The circular calls for quality economic growth, a departure from the old extensive growth mode," said a netizen named "Kanshazishadoukan" on Sina Weibo, a popular Twitter-like microblogging service. "It lays out targeted and forceful measures, and I hope the measures will be fully carried out," the microblogger said.

Although Liaoning's fines were small when compared with the 1.7 trillion Yuan China's central government said it plans to invest to improve air quality, they're a sign that local governments are willing to impose punitive measures in the battle to clear the air.

Tianjin Curbs Purchase of New Vehicles



People flood to a local auto market in Tianjin, a day before the city imposed a restriction on the purchase of vehicles. Photo: CFP

Tianjin has joined other big cities like Beijing, Shanghai and Guangzhou to curb vehicle purchases as worries about pollution and traffic congestion rise around the country.

The purchase restriction led to a rush buying of vehicles in Tianjin and raised fresh doubts over its effectiveness in addressing traffic and environmental problems at the expense of residents' rights to purchase vehicles.

The city's municipal government imposed quotas on new license plates, requiring buyers join the lottery or bid in auctions to win a plate, in an effort to optimize the city's traffic environment, ease traffic congestion, improve air quality and ensure a reasonable growth of vehicle numbers, according to its government website.

"It is a necessary step for big cities like Tianjin to curb traffic congestion before it becomes too excessive," Xu Kangming, a transport expert and founder of consultancy 3E Transportation Systems, told the Global Times.

As a city that holds 14 million permanent residents, Tianjin had 2.36 million registered motor vehicles by 2012, up from 1.2 million in 2006, while the average driving speed on downtown roads during rush hours dropped to 19.5 kilometers per hour in 2011, according to a report by the Tianjin Daily.

"Increasingly heavy air pollution has also triggered big cities like Beijing and Tianjin to intensify limitations on vehicle purchases," Xu added. The Tianjin Daily quoted a 2012 report on the city's environment as saying that vehicle emissions contributed 16 percent of PM2.5, a major pollutant, and are held as a key source of air pollution.

"Curbing car purchases can be an immediate solution to ease air pollution and traffic jams, and it will be adopted in big cities suffering these problems," Niu Fengrui, former director of the Institute for Urban and Environmental Studies under the Chinese Academy of Social Sciences, told the Global Times. "It can't fix the problems completely, "Niu said, adding that the causes for air pollution and traffic jams are more complicated than the increasing number of vehicles.

Zhao Ruizheng, a research fellow with the Heilongjiang Provincial Academy of Social Sciences, regards this as a lazy way for the government to deal with problems without researching the underlying cause for traffic jams. "This will exacerbate social inequality and transfer the roads, which are public resources, to privileged resources enjoyed by high-income earners and government vehicles," Zhao was quoted as saying in a report by news portal xinhuanet.com.

Meanwhile, as some locals have expressed concerns over the city's public transportation system, which is less developed than those in Beijing and Shanghai, experts suggest that Tianjin should develop diversified public transportation to ease traffic. "It should be equipped with more suitable public transportation services with more convenient transfers and a low fare," Zhu Shouxian, a research fellow at the same institution as Niu, told the Global Times, adding that urban planning and governance in big cities should be emphasized while managing traffic and pollution problems.

In addition to purchase controls, Tianjin will also follow Beijing's lead by adopting a similar traffic restriction scheme starting on March 1, 2014, which bans one fifth of private vehicles from roads on weekdays, Miao Hongwei, head of the city's traffic management bureau, said at a press conference. Moreover, the city will ban vehicles with non-local plates from driving into the city's outer ring road during morning and evening rush hours on weekdays, Miao said.

Biden Reaffirms Cooperation with China on HFCs, Clean Heavy Duty Diesels

On December 5th, U.S. Vice President Joe Biden and senior Chinese officials pledged increased cooperation by both countries—the world's two leading greenhouse gas emitters—on climate change by phasing out fossil fuel subsidies and the global use of hydrofluorocarbons, a highly potent greenhouse gas. The cooperative efforts, pledged following Biden's trip to China which included a meeting with Chinese President Xi Jinping, include a more pronounced push to curb HFCs under the Montreal Protocol on Substances that Deplete the Ozone Layer.

The two countries will establish a new "contact group" under the treaty to focus on HFCs, a rapidly growing greenhouse gas originally developed as an alternative to ozone-depleting chemicals, according to the joint fact sheet on strengthening U.S.-China economic relations released by the White House.

To help accelerate progress on the U.S.-China Climate Change Working Group Heavy-Duty and Other Vehicles initiative, the United States and China committed to implement and enforce their current schedules for implementation of low-sulfur fuel and for motor vehicle emissions standards. Both sides also committed to work together to help China design and implement China VI vehicle emissions standards as soon as practical, strengthen communication in heavy-duty vehicle fuel efficiency standards to reduce greenhouse gas emission, promote the implementation of clean action plans for heavy-duty diesel vehicles, and explore ways to design and implement the clean action plans for non-road motor vehicles and supporting diesel engines, which would reduce PM2.5 emissions and would have substantial air quality and climate benefits. The United States committed to provide technical assistance to achieve these goals and continue to provide technical assistance on regional air quality management and modeling, including emissions from mobile sources.

More Emission Controls Urged in China

In order to improve air quality, deal with the increasingly serious air pollution problems, and promote the process of motor vehicle fuel desulfurization, an international seminar was held in Beijing on December 9th. The meeting was sponsored by United Nations Environmental Program (UNEP) and jointly organized by the Vehicle Emission Control Center of the Chinese Ministry of Environmental Protection, the International Council on Clean Transportation, and Clean Air Asia.

With global air quality improvement as a starting point and the development process of fuel desulfurization as the main thrust, representatives from governments, international organizations, research institutions and the business community analyzed international and domestic motor

vehicle fuel desulfurization routes and shared management experiences of motor vehicle fuel desulfurization promotion.

A man wears a face mask while walking on the Bund in front of the financial district of Pudong during a hazy day in downtown Shanghai on Dec 9, 2013.

The government should set higher standards for vehicle emissions while promoting cleaner fuels to deal with the significant contribution of motor vehicles to air pollution, environmental officials and experts said at the Workshop. More than 100 cities were shrouded in thick smog and haze just prior to the workshop and national alarms for smog and haze that lasted for seven days were not lifted until that morning, according to the National Meteorological Center.

"Emissions from motor vehicles contribute a significant part to air pollution, sometimes as high as 50 percent, especially in such foggy weather when the air is stagnant," said Lu Shize, air pollution section chief from the Pollution Prevention and Control Department of the Environmental Protection Ministry (MEP).

Two standards systems, one for emissions and the other for fuel, control the pollution coming from motor vehicles.

China should start to prepare for its new China VI emissions standard, which may further reduce the amount of pollutants discharged by motor vehicles by another 40 percent based on the latest China V standard, said Ding Yan, deputy head of the ministry's vehicle emission control center. The Beijing government has vowed to implement the new standard by 2016 at the earliest. No schedule for the introduction of China VI nationally has been announced by MEP.

"There has been criticism of the government for being radical in promoting the development of emissions and fuel standards over the past decade, trying to reach a similar level as developed countries in such a short time," Ding said. "But seen from the perspective of environmental protection, we are being too slow by following the developed countries' steps, when their pollution levels are already much lower than China's."

Research shows that China's latest fuel standard is behind those of Europe and the United States, and has much room for improvement. The sulfur content of gasoline was lowered four times in the past 10 years, with the allowed content dropping from 1,000 microgram per gram to the current 50 mcg per gram. However, the desulfurization of diesel is occurring at a slower pace, with its allowed sulfur content reduced to 350 mcg per gram nationwide on July 1, 2013 from the previous level of as high as 2,000 mcg per gram, which lasted for more than 10 years. The permitted sulfur level for diesel in the European standard is 10 mcg per gram.

"Limits for contents of other pollutants in our gasoline standard, such as olefin and aromatics, are too high, leading to more emissions of toxic particulate matters and complex airborne pollution," said Tong Li, associate professor at the ministry's appraisal center for environment and engineering. Tong added that the high vapor pressure limit in the country's gasoline standard, which is twice the US standard, may cause high emissions of volatile organic pollutants.

Setting up stricter emission and fuel standards does not necessarily mean higher costs, according to studies and foreign experience. "Introducing cleaner fuels and vehicles is considered one of the most cost-effective air pollution and climate change interventions, because it has climate and health benefits plus provides major cost savings," said Zhang Shigang, coordinator of the UNEP China Office.

The average per-liter cost to upgrade refineries and produce 10-mcg-per-gram sulfur fuel in China is 0.7 cents for gasoline and 1.7 cents for diesel. This is well below the price increases approved in October 2013 by the National Development and Reform Commission, according to analysis commissioned by the International Council on Clean Transportation. The analysis also found that the long-term benefits of the proposed China VI standards outweigh the costs by at least 7-to-1.

The sales volume of motor vehicles in China is expected to reach 22 million in 2013, while the International Council on Clean Transportation predicts the number of vehicles in the nation will reach almost 200 million by 2030, with more than 40 percent of those in the Beijing-Tianjin-Hebei cluster, the Yangtze Delta and the Pearl River Delta, the three most polluted areas in China.

The Air Pollution Action Plan released on September 10, 2013 by the State council made it clear that the fourth stage motor vehicle gasoline and diesel (50ppm) will be supplied nationwide respectively in 2013 and 2014. And at the end of 2015, the fifth stage motor vehicle gasoline and diesel (10ppm) will be fully supplied in Beijing, Tianjin, the Yangtze River Delta, the Pearl River Delta and other key areas; by the end of 2017, nationwide supply should be achieved.

EPA Administrator Ms. Gina McCarthy

US Environmental Protection Agency administrator Gina McCarthy spoke at the meeting and said that precisely because of the implementation of ultra-low sulfur fuel it has been possible to further implement more stringent motor vehicle and engine standards in the United States. She said that clean fuel and more stringent emission standards can also help China apply more advanced vehicle emissions control technology to further reduce emissions. The two countries should strengthen cooperation to reduce emissions of the transport sector and jointly cope with clean air challenges. McCarthy's activities over her four-day visit included chairing a meeting of the China-U.S. Joint Committee on Environmental Cooperation, launched in 2005 to encourage cooperation between the EPA and its counterpart in China, the State Environmental Protection Administration.

McCarthy's message on low sulfur fuels was reinforced by California Air Resources Board, Executive Director, Mr. Richard Corey.

"The use of low-sulfur gasoline can cut hydrocarbons, nitrogen oxides and toxic air pollutants and mitigate the efficiency decrease of the catalytic converter caused by sulfur pollution; The use of low-sulfur diesel fuel can reduce sulfur dioxide, particulate matter and nitrogen oxides; diesel vehicles can effectively use particulate matter trap with catalytic devices and nitrogen oxides post processors," California air Resources Board executive officer Richard Corey said," It is estimated that California has made great gains in terms of motor gasoline quality improvement, it is equivalent to removing 3.5 million vehicles off the roads, and reduce the risk of cancer caused by vehicle emissions by 40%. "

UNEP representative in China Zhang Shigang said that UNEP is very pleased to see China has announced plans to further reduce fuel sulfur content to 10pm, which is a huge contribution to air pollution prevention and control on city, country, regional and global levels. At the same time, China's approach has had a significant impact on other developing countries worldwide.

Prior to leaving the US for her visit to Beijing, Shanghai and other Chinese locations, Environmental Protection Agency Administrator McCarthy noted that China could learn from U.S. struggles to reduce pollution as it confronts its recent high-profile incidents of poor air quality paralyzing major cities. "While I am all too well aware of the severe air quality challenges that China now faces, I see these challenges as ones where the United States can truly speak from experience in support of China's efforts to reduce air pollution," McCarthy said at an event hosted by the Center for American Progress.

China's goals "are now to get down to the similar levels which the United States and WHO indicate need to be phased down (to) but the challenge is enormous," McCarthy said.

McCarthy said a public outcry for better air pollution controls in the United States before the creation of the EPA in 1970 was an impetus for stringent air pollution measures. "Before the EPA and our landmark environmental laws in the United States, dark blankets of pollution covered our great American cities - not just Los Angeles but New York and Pittsburgh," she said in prepared remarks.

The U.S. and China represent the two largest global economies, the largest energy consumers and the largest carbon emitters, and the two countries must work together to address pollution, particularly greenhouse gases, McCarthy said. China and the U.S. need to take a lead to address climate change as the UN Framework Convention on Climate Change looks toward negotiating a global climate agreement to be finalized in 2015, McCarthy continued. "In a 2015 world, the two largest emitters of the greenhouse gases need to be at the table, and it's extremely important that China be with us and be aggressive and be supportive of establishing some goals we can all be proud of," she said.

McCarthy said the EPA has worked with China's Ministry of Environmental Protection on air quality issues for the past 15 years, and she hopes to build on that relationship to address climate change. "They have established some very ambitious goals, not only for air quality but also for climate," she said.

She noted that EPA and China have already discussed methods to reduce emissions of short-lived climate pollutants such as methane, hydrofluorocarbons and black carbon. The U.S. and China in September agreed to pursue amendments to the Montreal Protocol on Substances that Deplete the Ozone Layer to reduce the production and consumption of hydrofluorocarbons (HFCs), a short-lived but potent greenhouse gas. That pledge built on a June 8 agreement between President Barack Obama and Chinese President Xi Jinping to phase down HFC emissions.

The EPA and China also are looking at ways to reduce the allowable sulfur content of diesel engines, a significant source of black carbon. While the U.S. currently caps the amount of sulfur allowable in diesel fuel at 15 parts per million, China allows up to 10 times that amount in its diesel fuel, McCarthy said. She said the agency will discuss methods to reduce the sulfur content of fuels used by highway vehicles, heavy-duty engines and marine diesel engines.

U.S., China Pledge to Cooperate On Marine Emissions, Soil Pollution, Shale

Top U.S. and Chinese environment officials meeting in Beijing reiterated their joint commitment to reducing emissions from marine vessels, soil pollution, impacts from shale gas and mercury pollution, according to a December 11th report on the website of China's Ministry of Environmental Protection. The report, an overview of the December 9th meeting between U.S. Environmental Protection Agency Administrator Gina McCarthy and China's Minister Zhou Shengxian, also called for further cooperation to reduce mercury under the Minamata Convention on Mercury.

The U.S. and China "continue to deepen cooperation and enhance" mutual trust on environmental issues, according to the report.

The U.S.-China environmental talks were the fourth held by the Joint Commission on Environmental Cooperation formed between the U.S. and China in 2005. The meetings alternate between Washington and Beijing. McCarthy and her Chinese counterpart signed a statement on cooperation at the conclusion of their talks.

The joint meeting of the nations' top environment officials came a week after Vice President Joe Biden and senior Chinese officials pledged increased cooperation by both countries—the world's leading greenhouse gas emitters—on climate change by phasing out fossil fuels subsidies as well as the global use of hydrofluorocarbons, a highly potent greenhouse gas (see related story).

Zhou reportedly said at the December 9th meeting that China's main environmental focus for the coming year will be controlling air pollution, particularly small particulate matter (PM-2.5); protecting drinking water resources; preventing and remediating soil pollution, primarily in rural areas; reducing key pollutant emissions and discharges (sulfur dioxide and nitrogen oxide in air, and levels of chemical oxygen demand and ammonia nitrogen in wastewater); increasing environmental law enforcement; and reforming institutional mechanisms to streamline environmental protection.

China Tells Pilots to Improve Landing Skills to Deal With Beijing Smog

Residents wearing face masks use their mobile phones on a pedestrian overpass on a hazy day at the Pudong financial area in Shanghai, December 6, 2013.

Chinese authorities have told pilots who fly to Beijing they must be qualified to land their aircraft in the low visibility bought about by smog, state media said recently, as the government tries to reduce flight delays due to pollution.

Beginning January 1, pilots flying from the country's 10 busiest airports into the Chinese capital must be qualified to use an instrument landing system on days when smog reduces visibility to around 400 meters (1,315 feet), the official China Daily said, citing China's civil aviation regulator. "It is part of a series of measures the administration took recently to raise the flights' on-time performance," the newspaper quoted an unnamed aviation official as saying.

Despite investing billions of dollars in new airports and advanced Western-built aircraft, China suffers a chronic problem with flight delays, partly because of the country's often wildly-fluctuating weather and partly because the military tightly controls most of China's airspace. Chinese media frequently reports fights, attacks on airport and airline workers and passengers storming aircraft in response to delays and the poor way they are handled, and the government has demanded airlines and airports address the issue. In recent years, smog has added to the problem of delays, especially in Beijing but also in other parts of the country like cosmopolitan business hub Shanghai.

"Considering the recent smog and haze has bought numerous troubles to air transport in eastern and southern regions, it seems necessary for authorities to ask pilots to improve their landing capability in low visibility," the China Daily quoted Ouyang Jie, a professor at Civil Aviation University of China, as saying.

The report added that only a handful of Chinese airports have the instrument landing systems required for aircraft to land in poor visibility.

Beijing to Buy New Buses to Clear City Smog

China's capital Beijing, regularly shrouded in hazardous air pollution, plans to replace its oil-burning buses with greener models by 2017 to help clear the smog, state news agency Xinhua said. Nearly 14,000 new buses powered by electricity or natural gas will be bought with an expected investment of 10 billion Yuan (1.64 billion U.S. dollars) to replace two-thirds of Beijing's bus fleet and halve carbon emissions, Xinhua said, citing the city's environment and transportation authorities.

By 2017, 66 percent of the total 21,000 buses in the city will be electronic or clean energy buses. About 150,000 tons of fuel oil will be saved every year, and carbon emissions cut by 50 percent. The rest of the buses will be low-emission diesel vehicles.

The city plans to purchase a new type of trolley bus that will be powered either through overhead cables or onboard lithium ion batteries, said Cao Yan, operational manager of the Beijing Public Transportation Group. The trolley bus will be able to run for 8 to 10 hours offline.

Schools Close In Smog-Enshrouded Eastern China

Hazardous air pollution forced schools to shut or suspend outdoor activities in at least two cities in eastern China, where residents complained of the yellow skies and foul smells that are symptomatic of the country's crippling smog crisis.

In Nanjing, the capital of Jiangsu Province, the sun was the color of "salted egg yolk" as the government raised the "red alert" for poor air quality for the first time, state-run news media reported. The city saw levels of PM2.5, or particulate matter with a diameter of 2.5 micrometers, reach a reading of 354, said Nanjing-based news portal news.longhoo.net. Levels above 300 are considered hazardous, while the World Health Organization recommends a daily level of no more than 20.

Qingdao, a coastal city in Shandong province, was also shrouded in smog as PM2.5 levels of over 300 were recorded, said Peninsula Metropolis Daily, a Qingdao newspaper.

Nanjing suspended classes in primary and secondary schools and Qingdao banned outdoor activities, said the official Xinhua news agency. Qingdao also banned the burning of leaves and rubbish and restricted the use of government vehicles, while Nanjing said it would strengthen control on industrial sources of pollutants. Residents in both cities took to China's popular Twitter-like Weibo site to describe desolate streets and the apocalyptic environment. "The sky is pale yellow and the air is full of a choking smell," one user wrote.

Shanghai Air Pollution Wanes after Smog Forces Cancellations

Photo: Balloon used by Shanghai's Environmental Monitoring Center to collect air quality data from an elevation of up to 1000 meters.

Shanghai's air pollution finally fell to "light" levels after record smog prompted flight cancellations and the city warned children and elderly to stay indoors on at least seven of December's first nine days. "This is a shock," said Robert Theleen, chief executive officer of ChinaVest Ltd. and chairman of the American Chamber of Commerce in Shanghai. "There was a perception that Shanghai was doing a better job in controlling pollution than Beijing."

The city's air quality index was 130, categorized as "lightly polluted," according to the local monitoring center. A warning to stay indoors is triggered any time the index exceeds 200. The index surged to a record 482 on December 6th to the "severe" level, the highest of a six-tier rating system, according to the China Daily newspaper. That prompted the government to order cars off the road and factories to cut production.

Baosteel Group Corp., the parent company of China's largest-listed steelmaker, is using low-sulfur coal in its Shanghai power plants in line with government efforts to reduce smog, according to spokesman Alex He. The company also suspended outdoor operations of its chemical facilities and is controlling production at its iron-ore processing operations, He said.

The smog is hurting the city's image as it seeks to attract foreign businesses and talent to its fledgling trade zone, Theleen said. City officials need to do better job with information disclosure and find out the root cause of the smog. he said.

The pollution may be coming from coal power plants and factories such as cement works in the provinces of Jiangsu, Anhui and Shandong, Greenpeace China said on its website. "Steps taken by the Shanghai government to alleviate pollution aren't enough," Huang Wei, who works on climate and energy issues for Greenpeace in Beijing, told reporters. "Smog brings a huge health risk to the public and definitely affects multinational companies' investment decisions and makes them hesitate before sending foreign employees to China."

China's Government Stresses Transparency As Localities Take Actions

Amid a continuing series of air pollution emergencies, Chinese environmental authorities are pushing more forcefully for disclosure of air quality information, and more localities are limiting vehicle use and factory production. Air quality readings rose above the 500 mark, the highest level on the air pollution index, at monitoring points in eastern China near Shanghai and the Yangtze

River Delta during the first two weeks of December. A reading of 500 or more indicates severe air quality problems.

On December 15th, the State Council released a notice from the Ministry of Environmental Protection calling on environmental protection bureaus to use local government-affiliated media and other news platforms to release detailed information on air quality and to alert local governments to initiate contingency plans during air pollution emergencies. The ministry criticized some bureaus for withholding information and not responding to pollution emergencies in a timely manner, saying that had eroded public confidence in the authorities.

Some cities, such as Nanjing, the capital of Jiangsu province in eastern China, are implementing 24- to 48-hour forecasting systems to alert residents about future air pollution threats.

Minister of Environmental Protection Zhou Shengxian told environmental officials at a December 16th meeting on urbanization plans that frequent air pollution is not only "an environmental issue, but also a quality of life issue that is bound to develop into a major political issue." According to an account on the ministry's website, Zhou added that cities must accelerate implementation of air pollution prevention and controls and adjust their energy mixes, including "substantially increasing" the use of cleaner-burning coal.

Legal Daily, a newspaper under the direction of the Ministry of Justice, reported on December 16th that the ministry has drafted amendments to China's Air Pollution Prevention and Treatment Law for submission to the State Council in early 2014. It said the ministry is drafting new airborne emissions standards for the cement industry and six other unnamed sectors as well as more extensive motor vehicle pollution control policies.

Officials from the ministry and the National Development and Reform Commission said in early December that they have established a joint committee under the State Council to oversee national air pollution control planning.

Several areas have recently begun to implement air pollution plans focused on controlling emissions from vehicles and industry. For example:

- Tianjin said Dec. 16 it will use a license plate lottery and auction system to limit vehicle growth in the municipality to 1 million over the next three years. At the end of 2012 there were already 2.36 million registered vehicles in the municipality, the government said. State media reported that residents are rushing to purchase vehicles before the plan is fully implemented.

- China Environment News (CEN), an agency attached to the Ministry of Environmental Protection, reported on December 16th that 10 cities in the northeastern Shandong province, including the capital of Jinan, have introduced limited, 30 percent production cutbacks for coal-fired power plants, iron and steel works, chemical facilities and other certain other heavy industries after air pollution index readings in those cities rose above the "hazardous" 400 level on the air pollution index, triggering an "air pollution emergency" response.

- CEN reported December 9th that 49 companies in Jinan had signed an agreement with the municipal government to shut down or reduce production during such emergencies.

- Taiyuan, capital of Shanxi province in central China, said on December 10th that it will restrict the use of vehicles by government departments and alternate daily private car use between odd and even license plate numbers during air pollution emergencies, as well as reduce production by 30 percent in heavy industry during those periods.

- Qinghuandao, a port city in Hebei province, said on December 9th it will impose similar restrictions in emergency situations. Over the past year, Hebei province has spent 13.9 billion Yuan ($2.28 billion) on prevention and treatment programs for air pollution and closed facilities of 190 companies because of outdated production techniques, CEN reported on December 6th.

- Jiangsu and Heilongjiang provinces and the cities of Chengdu, capital of Sichuan province, and Shijiazhuang, capital of Hebei province, also have finalized and released air pollution action plans in recent weeks.

- CEN reports from December 11th indicated that Beijing's government is expected to approve air pollution control ordinances in January. These will focus on the principle of "polluter pays," with businesses and industries with the heaviest pollution paying the highest costs.

- The state-run Xinhua news agency reported on December 10th that eight cities in Liaoning province are being fined a total of 54.2 million Yuan ($8.9 million) by the provincial environmental protection bureau for failing to implement certain air pollution controls.

Light-Vehicle Sales Jump 16% in November; Annual Sales to Exceed 21 Million

China's passenger-vehicle deliveries rose 16 percent in November as Japanese automakers extended their sales recovery for a third straight month. Wholesale deliveries of cars, MPVs and SUVs climbed to 1.7 million units, the state-backed China Association of Automobile Manufacturers reported.

Sales at Toyota Motor Corp., Nissan Motor Co. and Honda Motor Co. surged as Chinese consumers shrugged off renewed diplomatic tensions between Asia's two-largest powers. That's in contrast to last year, when Japanese automakers were hurt by consumer boycotts against Japanese products in the wake of a territorial dispute over a group of uninhabited islands in the East China Sea. "The Japanese have been introducing more new models, especially lower-priced ones, which has made them very competitive," said Harry Chen, a Shenzhen, China-based analyst at Guotai Junan Securities Co. "That has helped their recovery momentum."

The decades-long dispute was reignited last month after China created an air defense area covering the islands, known as Senkaku in Japan and Diaoyu in China. But the simmering dispute did not ignite a fresh wave of boycotts, and now Honda and Toyota are headed for record sales in 2013.

One reason that Japanese sales look so strong today is that they were so weak last year. Moreover, Japanese automakers fueled their recovery with steep discounts, said John Zeng, Asian director of LMC Automotive, a market research firm. Take the Mazda6 sedan, Mazda's top-selling model in China. Last year, the car sold for 170,000 Yuan ($27,870), but this year its price dropped below 130,000 Yuan, according to Zeng.

Over the past six months or so, Japanese brands received yet another sales lift from a wave of product launches. Honda, for example, introduced the Cider and Jade to the Chinese market.

Over the next few months, Japanese brands likely will get a lift from some SUVs that they plan to launch. Compact SUVs are in strong demand in China. In November SUV sales nationwide jumped 59 percent from a year earlier to 301,000 units, according to the China Association of Automobile Manufacturers. But SUVs alone can't guarantee sustainable sales growth for Japanese brands, now that rival automakers are launching their own new products.

Take Ford. Since last year, the U.S. automaker has introduced four SUVs: the Edge, Explorer, Kuga and EcoSport. By 2015, Ford plans to introduce yet another SUV plus the Mustang.

To capture more market share in China, virtually all global automakers are aggressively expanding. General Motors, for example, is building two plants in China with a combined capacity of 600,000 units.

But that is something that Japanese automakers are wary of doing.

Anti-Japanese sentiment in China finally has subsided. But relations between China and Japan remain strained, and neither country has shown any inclination to back down from their territorial dispute.

Fearing that tense relations could trigger another boycott, Japanese automakers are reluctant to build new plants in China. Such fears will hold back these companies at a time when their competitors are forging ahead.

Industrywide, total sales of vehicles -- including buses and trucks -- reached 19.9 million units this year through November. China's total vehicle sales should exceed 21 million units this year, according to Dong Yang, secretary general of the auto association.

Ford Motor Co.'s Focus was the best-selling sedan last month, with Great Wall Motor Co.'s Haval line remaining the nation's top-selling SUV.

General Motors, the largest foreign automaker in China last year, reported a 13 percent gain in November sales and the company has said it will deliver 3 million vehicles in China this year by the middle of December.

But Volkswagen AG is poised to overtake General Motors as the top-selling automaker in China after posting a 15 percent November gain. VW delivered 310,000 vehicles in the world's largest auto market last month, outpacing GM's sales of 294,500 units. In the first 11 months, the German automaker has sold 2.96 million cars and trucks in China, while GM sold 2.89 million units.

While VW now sits atop the China market, not all VW brands fared equally well. The company's luxury brands -- Audi and Porsche -- boosted sales, while value brand Skoda continued to struggle. Audi sales in the first 11 months increased to 443,700 units, while Porsche sold 34,113 units, up 17 percent. However, Skoda deliveries declined nearly 4 percent to 217,400 units.

In the first 11 months, Volkswagen-brand passenger car sales in China increased 18 percent to 2.3 million units. The automaker considers China to be the centerpiece of its campaign to be the world's top automaker by 2018. Over the next five years, VW will spend 18.2 billion euros (149

billion Yuan) on new assembly plants and models in China. During that time, the company expects to increase Chinese production by 60 percent.

26. WTO Panel Affirms Ruling Condemning Chinese Export Restrictions on Rare Earths

A World Trade Organization dispute panel has affirmed that China violated its WTO membership terms by imposing export restrictions on rare earths, which are important to a multitude of industrial and high-tech products including wind turbines, hybrid car batteries and energy-efficient lighting.[13] The three-member WTO panel issued a final ruling on December 13th, backing the complaint filed by the U.S., the European Union and Japan against the Chinese restrictions, which take the form of export quotas, export duties, various restrictions on the right to export and administrative requirements limiting exports.

The final ruling was issued to the parties on a confidential basis and will only be made public once it has been translated into the WTO's three official languages, a process which is expected to take an additional three months to complete. China will then have 60 days to decide whether to appeal the panel's findings.

The final ruling maintains the conclusions of the panel in its preliminary ruling issued to the parties on October 23rd — that the export restrictions violate Paragraph 11.3 of China's 2001 WTO accession protocol requiring the country to eliminate all taxes and charges applied to exports unless specifically provided for in Annex 6 of the protocol. Annex 6 allows China to impose export duties on 84 tariff lines up to a specified limit; none of the rare earths or metals at issue in the dispute are on the Annex 6 list.

The panel also rejected China's claims that the export restrictions could nevertheless be justified as an exception to WTO rules under Article XX(b) and (g) of the WTO's General Agreement on Tariffs and Trade because they were needed to protect human health or conserve exhaustible natural resources. The complainants contended that Paragraph 11.3 of the 2001 accession protocol precludes the possibility of China invoking an Article XX defense. That conclusion was not unanimous, with one panel members agreeing with China that the export restrictions could in principle be imposed as an Article XX exception but adding that China had not demonstrated the duties were justified under that provision.

China is the world's leading producer of rare earths, a set of 17 chemical elements in the periodic table that include 15 lanthanides (lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium), as well as scandium and yttrium.

In addition to the rare earths, the three complainants also successfully challenged Chinese export restrictions on the metals tungsten and molybdenum.

S. Korea, China to Discuss Ways to Cut Air Pollution

Senior officials from South Korea and China will hold talks to discuss ways to help reduce hazardous air pollution in northern China, as Beijing's smog is increasingly affecting Seoul. The one-day talks in Beijing will bring together dozens of senior officials from the two nations' environment ministries and meteorological agencies, a South Korean diplomat said.

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[13] Rare earths are also used in advanced electronics, flat-panel displays, mobile phones, disk drives, steel, automobiles, petroleum and chemicals.

"During the talks, South Korea will provide its lessons in tackling air pollution to China and the two sides are expected to exchange a variety of cooperative measures to jointly improve air quality," said the diplomat.

The levels of particulate matter in South Korea have been jumping during the winter months, as westerly winds carry the smog from China to the Korean Peninsula.

27. Hong Kong to Measure Air Quality Impacts on Health Amid Growing Pollution Concerns

On December 30th, Hong Kong introduced an air quality health index (AQHI) pegged to pollution-induced hospital admission risks amid increasing concerns about smoggy skies. Readings on the index will be calculated based on health risks from inhaling concentrations of ozone, nitrogen dioxide, sulfur dioxide and particulate matter, the government said in a statement on December 6th.

Chief Executive Leung Chun-ying has made cleaning up the city's skies a priority with air quality in Hong Kong worsening since 2007. Outdoor pollution can cause lung cancer, the International Agency for Research on Cancer, a World Health Organization agency, said in October.

"It's a much tightened standard," Andrew Lai, deputy director of environment protection, told reporters. "Under the new index, we are not only reflecting the concentration levels of the key air pollutants but also the health risks associated with those pollutants." The higher standards, which spell out the health risks more clearly, mark the first time the former British colony has changed the way it measures air quality since 1987. They were adopted after a review by public health and air science experts from local universities, and reference guidelines from the Geneva-based WHO, Lai said. Under the new system, there may be more days with pollution classified as "high" or "very high," he said.

28. Gas Use Slows Diesel Demand in Thailand

Diesel consumption should rise only slightly in 2014 due to a continued shift to the cheaper NGV and LPG (natural gas for vehicles and liquid petroleum gas) in the transport sector, according to the Energy Business Department. Director-general Somnuk Bomrungsalee said this rise in consumption was attributed to the increasing number of service stations selling gas. At present, the number of NGV stations stands at 478 nationwide, up from 472 at the end of 2012. Meanwhile, LPG stations also rose from 1,135 in 2012 to 1,723.

The department revealed that diesel consumption in the first 11 months of this year rose by only 2 per cent from 55.9 million liters a day to 57.1 million on average, from the same period last year.

In the period, NGV consumption rose 11 per cent from 7.7 million kilograms per day to 8.5 million, while LPG consumption rose by 67 per cent from 2.9 million kg to 4.8 million.

Meanwhile, petrol consumption rose 7.6 per cent from the same period last year, thanks to the delivery of new passenger cars. In 2013, one million new vehicles were registered. The department revealed that petrol consumption in the period rose from 20.8 million liters a day to 22.4 million.

In October, the LPG price for household use rose by Bt0.50 per kilo per month. Subsidies are extended to poor households. To date, about Bt4.9 million has been spent and the department plans to review the subsidy program in the next two months.

On the progress of the Bt20-billion fuel pipeline project, Somnuk said Chulalongkorn University has been commissioned to conduct a feasibility study for completion in 2014, separate from a study by Thai Petroleum Pipeline (Thappline). He noted that if Thappline is not ready to invest in the project, the government would do it. The construction is scheduled to start in 2016, and to be complete in 2018.

The department estimated that pipeline transmission would reduce fuel prices by at least Bt0.25 per liter, while reducing road accidents and energy used in transportation. In 30 years, this would reduce energy costs by Bt121.5 billion, it said.

29. High Diesel Engine Demand, Exports Drive Fiat into Profits in India

Italian car maker Fiat may not have had a great presence in the car market recently, but its joint venture with Tata Motors has quietly broken into profits for the first time since its establishment thanks to the voracious appetite for diesel engines from Maruti Suzuki, export of engine components to China and better cost efficiencies.

After the organizational restructuring in FY-12, wherein Fiat separated the manufacturing company from the marketing company and wrote off losses of about Rs 300 crore in Fiat India, the company posted a profit of Rs 269 crore in the six months ending March of 2013.

Fiat's exposure in the engine business is expected to rise further as its breadwinner engine business and the impending 7-9 new products planned by both Tata Motors which include Falcon 4 -code name for new small car and Falcon 5- a sub-four meter sedan which are in the works along with the upcoming new vehicles from the Fiat-Chrysler's range are expected to grow its revenues in the coming years.

Fiat-Chrysler's plans include the launch of a New Linea, as well as new launches such as Abarth, Grand Cherokee, Punto Cross and 2-3 new utility vehicles which are proposed to be manufactured and in some cases assembled at the Ranjangaon plant. For this purpose, the Fiat-Tata joint venture infused additional capital of Rs 650 crore in June of 2013.

During the October 2012 to March of 2013 period, the average engine production rose by over 20-30% compared to FY-12. Fiat India produced 80,736 engines in six months, with an average of 13,000 units a month. The company supplied over 100,000 engines from its Ranjangaon plant to Maruti Suzuki over the last 12-18 months.

The company's exports increased three-fold in the second half of FY-13 compared to second half of 2011-12 led by exports to GAC-Fiat's China plant for 100% of its primary engine components such as cylinder block, lower cylinder head and upper cylinder head.

A judicious utilization of plant resources and rationalization of working days and shift timings yielded up to 30% production efficiency and some savings in costs and improvement in working capital management despite uncertain market conditions. When contacted Tata Motors spokesperson confirmed to the press that the JV has turned profitable, largely helped by the restructuring arrangement, increased product volumes and efforts towards cost management.

In order to strengthen the JV, Fiat and Tata have infused about Rs 1,500 crore over a span of two years. A sum of Rs 850 crore was capitalized into the JV through a fresh issue of equity shares in FY-12 (September of 2011) and there was an additional infusion of Rs 650 crore in June of 2013.

An analyst said while the reduced engine supply to Maruti Suzuki in FY-14 due to reduced demand for diesel cars may impede growth, it may however be compensated by the expected higher volumes from Fiat with its expanded dealer network and increasing product portfolio.

MIDDLE EAST

30. Israel Approves Compressed Natural Gas for Transport Use to Lower Costs, Emissions

Compressed natural gas (CNG) can now be used for transportation fuel as an alternative to gasoline and diesel under a directive signed by Israel's minister for national infrastructures, energy and water. Although the minister stressed the potential economic savings of CNG use by consumers, he also noted that broader use of CNG in public and private transportation would "most significantly" lower air pollution.

"We're continuing to take steps in every area to reduce the cost of living, and savings by consumers are already in the offing," Minister Silvan Shalom said in a December 6th statement. "When natural gas replaces gasoline and diesel, drivers will be able to save thousands of shekels a year, and benefit from cleaner, cheaper travel."

Shalom's directive is part of a broader government effort to expand domestic use of natural gas supplies being tapped off Israel's coast. His ministry has encouraged the creation of a CNG infrastructure for vehicles and is currently financing half of the 3 million shekel ($857,000) construction cost of Israel's first CNG fuel station, to be located at Zerifin, outside Tel Aviv. The ministry is also encouraging large car fleets to convert to CNG, it said.

The conversion of buses to CNG has been delayed by security concerns about the increased collateral damage the explosion of such a bus would cause. Public buses in Israel have repeatedly been targeted in terrorist bombings.

The Transportation Ministry has yet to issue standards for private vehicles powered by natural gas. And the National Infrastructure Ministry's estimates of consumer savings are also likely to change when the Israel Tax Authority completes its plan to raise taxes on all natural gas.

CARRIBEAN ISLANDS

31. Ultra-Low Sulfur Diesel Launched In Barbados

Barbados is the first island in the Caribbean to officially move from High Sulfur Diesel to Ultra-Low Sulfur Diesel (ULSD) according to an announcement at the official press launch of the procurement of ULSD at Government Headquarters. Acting Permanent Secretary in the Division of Energy and Telecommunications in the Prime Minister's Office, Jehu Wiltshire, said that the Division of Energy and the Barbados National Oil Company Limited (BNOCL) have been working together to make the transition as smooth as possible.

He noted that both organizations held a number of meetings with various stakeholders associated with ULSD, including Government entities, like the Transport Board, Sanitation Service Authority, the Ministry of the Environment and the Ministry of Economic Affairs, along with other players such as the Barbados Fisherfolk Association, the Barbados Chamber of Commerce and Industry and the automobile dealers on the island.

The Acting Permanent Secretary said that a decision was taken not to move from High Sulfur Diesel to Low Sulfur Diesel because it would not be feasible in the long run. "We would have initially agreed on the procurement of Low Sulfur Diesel, but the fact that the market is going quickly towards the use of Ultra-Low Sulfur Diesel, we realized the best decision would be to go for the Ultra-Low Sulfur Diesel instead of Low [Sulfur Diesel]".

Chairman of the BNOCL, Dr. Leonard Nurse, said that his company remained committed to providing the best possible and cleanest fuels to the island. He added that the procurement of the ULSD was a step in the right direction as it was more environmentally friendly. "I want to point out that we have taken another important step along the road to improving air quality, human health and environmental health in Barbados, following the launch some years ago of unleaded petrol," he told those present.

Dr. Nurse said that the BNOCL spent approximately $500,000 preparing the tanks for ULSD, adding that it was decided to clean the tanks thoroughly instead of just flushing them. "We took the decision at the level of the board not to flush out the tanks to import the Ultra-Low Sulfur Diesel and add it to the existing diesel ... We cleaned the tanks from scratch. So what we are getting is not mixed with anything ... It was a cost to us but we took that decision," he explained.

ULSD has been available at some services stations since late November, and it is not expected to cost more than Ultra-High Sulfur Diesel. Like other products it will vary according to the world market. "The price is not going to be substantially different from the other diesel, but let me say that as of last night I am told it is one cent cheaper than High Sulfur Diesel, but we do not control the commodity price on the world market", Dr. Nurse stressed.

Prime Minister Freundel Stuart described this as a “great step forward for Barbados”. He said: “In whatever area of national life we operate we need a sound and healthy environment and this initiative is intended to achieve that objective.”

Acknowledging that Barbados had committed itself to being the most advanced green economy in the region and in the Americas, the Prime Minister stressed that the use of High Sulfur Diesel was inconsistent with Government’s objective of creating a sound environment.

The Ultra-Low Sulfur Diesel was on the market from late last month and Mr. Stuart said that if Government had yielded to the suggestion of experimenting with the low and high sulfur diesels, then the Barbados National Terminal Company Limited would have had to embark on massive expenditure to accommodate the exercise. “We did not think that any two diesel options made sense because of the retrofitting that would have had to take place at the National Terminal and at service stations. We are confident that all of the necessary precautions have been taken to guarantee a smooth transition from High Sulfur to Ultra-Low Sulfur Diesel,” he stated.

Standard diesel carries a maximum sulfur content of 5,000 parts per million, while ultra-low sulfur diesel carries a maximum content of 15 parts per million. Many vehicles and engines are now manufactured to operate more efficiently with ultra-low sulfur fuels.

32. China, India Split with Other Developing Countries over Wording in UN Summit Text

China and India's success in weakening text adopted at a climate summit in Warsaw has created friction with other developing nations that are seeking to step up the fight against climate change. The two countries insisted on single-word changes for a deal at a United Nations conference involving 190 nations on November 23rd. Instead of making "commitments" to roll back fossil fuel emissions, they signed up for "contributions," a formulation that allows more flexibility in their action. Those last-minute revisions puts the two largest developing nations at odds with their smaller brethren, especially island states and Bangladesh that are the most threatened by rising temperatures.

The deal adopted in Warsaw sets out the first steps toward the next major agreement on reducing greenhouse gas emissions. Envoys intend to adopt the package in 2015 and bring it into force no later than 2020, replacing the Kyoto Protocol, which was negotiated in 1997.

Kyoto's limits applied only to industrial nations, leaving only voluntary measures for nations classified as developing, such as China and India. Since then, China has surpassed the U.S. as the world's biggest polluter, and India is catching up.

With emissions at a record, the UN says the world is on track to surpass a 2 degree Celsius (3.6 degrees Fahrenheit) temperature increase by 2100 that would raise sea levels and trigger more violent storms. "We're leading to a 3- or 4-degree world," said Gambian envoy Pa Ousman Jarju. "That is catastrophic for the least developed nations, small island states and the African continent."

The exact wording of the deal is important because it gives a signal to governments and business about the direction of policy. The U.S. and EU preferred "commitments" because it suggests a target all nations will stick to. China and India sought "actions" as well as extra language that referenced the old divisions between rich and poor nations from the 1992 UN Framework Convention on Climate Change. That was rejected by developed countries. "Contributions" was the compromise.

The typhoon that devastated the Philippines earlier in November struck just as delegates were arriving at the UN talks in the Polish capital. It led to an emotional appeal for action from the Philippine negotiator Yeb Saño, who was joined by more than 100 activists in fasting during the talks. ‘

In the past, developing nations both large and small stood together at the UN talks, pressing the industrial world to move first on reducing pollution. Now, the scale of emissions coming from the biggest developing nations is alarming the smaller ones. They pushed at the talks for help from rich countries to contain damages from climate change. "This is a question of survival," Quamrul Chowdhury, a negotiator for Bangladesh, said in an interview in Warsaw. "So many millions of people's lives are at stake, and we are not responsible for this menace. We are innocent victims."

In the closing hours of the conference, delegates who cared most about the wording gathered in a huddle to determine the phrasing in a text the conference would adopt. Envoys from South Africa and the Marshall Islands were among those who preferred the word "commitments" to

"contributions." While the smaller countries are pressing for action, China and India sought wiggle room on the nature of pledges they'd have to make for the 2015 deal.

The 28-nation EU, along with the U.S., is insisting all nations join in the next pact, since the growth in pollution from China and India mean Kyoto's limits now apply to less than 15 percent of global emissions.

Su Wei, the Chinese lead negotiator at the UN talks, told delegates he had "serious concerns about the word 'commitment' " and that for countries like his own, the next deal should call only for "enhanced actions" on emissions. He brushed aside concerns that China isn't ready to move on global warming. "We are very serious to come forward with some kind of actions," Su said in the interview. "That would certainly be a very important contribution."

India emphasized the importance of "equity" and "common but differentiated responsibilities." Those principles are interpreted by developing nations to mean that the richer countries must make a bigger effort to cut emissions than the poorer ones. "We share the common goal to tackle the threat of climate change," Environment Minister Jayanthi Natarajan told delegates at the close of the meeting in Warsaw.

The two-decade-old division frustrates the U.S. and EU, which say global warming can't be fixed without a stronger effort by those with the quickest growing emissions. "When you hear some of the things that were said during the course of the week that suggested, 'We're not making any commitments; commitments aren't for developing countries,' that's not going to get us where we need to go," U.S. Special Envoy for Climate Change Todd Stern told reporters in Warsaw. "These issues are going to be live, serious and difficult."

Ministers convene next in December 2014 in Lima, Peru, and then intend to adopt a final package in Paris in two years. It was two years ago in South Africa that China and India backed work toward a treaty in 2015 that would involve all nations, including them.

33. Short-Cut to Produce Hydrogen Seen As Step to Cleaner Fuel

Scientists have produced hydrogen by accelerating a natural process found in rocks deep below the Earth's surface, a short-cut that may herald the wider use of what is a clean fuel, a study showed recently. Used in battery-like fuel cells, hydrogen is being widely researched as a non-polluting fuel, but its use is so far hampered by high costs. A few hydrogen vehicles are already on the roads, such as the Honda FXC Clarity and Mercedes-Benz F-Cell, and more are planned.

Researchers in France said aluminum oxide speeded up a process by which hydrogen is produced naturally when water meets olivine, a common type of rock, under the high temperatures and pressures found at great depths. "We have overcome a preliminary step for a carbon-free energy production," lead researcher Muriel Andreani of the University Claude Bernard Lyon 1 in France told reporters.

The addition of aluminum oxide accelerated the natural process by between 7 and 50 times, using temperatures of between 200 and 300 degrees Celsius (400-570 Fahrenheit) at a pressure equivalent to twice the depth of the deepest ocean. In the process, olivine turns into the mineral serpentine and water splits into its components, hydrogen and oxygen.

Currently, the most widely used technology for producing hydrogen - separating it from natural gas - requires far higher temperatures of 700 degrees Celsius (1,300 Fahrenheit) and releases

heat-trapping carbon dioxide as a by-product. Using lower temperatures would save energy and money.

Fuel cells, which meld hydrogen with oxygen in the air to yield electricity, emit only water. That makes them attractive as a way to cut greenhouse gas emissions and air pollution.

Far more research is needed to see if the French findings could be increased to a commercial scale, said Jesse Ausubel of the Rockefeller University in New York. "Scaling this up to meet global energy needs in a carbon-free way would probably require 50 years," he said in a statement. "But a growing market for hydrogen in fuel cells could help pull the process into the market."

The findings were presented to the American Geophysical Union, meeting in San Francisco from December 9-13, after an initial report in the journal American Mineralogist in October. The work is part of the Deep Carbon Observatory (DCO), a 10-year project due for completion in 2019 involving 1,000 researchers in 40 nations.

34. ExxonMobil Forecasts 35% Increase in Global Energy Demand By 2040

More-efficient, energy-saving programs and technologies, increased use of natural gas and other less carbon-intensive fuels, and continued development of advanced exploration and production technologies will support a 35% increase in global energy production by 2040, ExxonMobil Corp. said in its latest annual outlook.

Governments also likely will establish policies that effectively put a price on carbon emissions, William M. Colton, ExxonMobil's vice-president of corporate strategic planning, said as the company released the forecast at the Center for Strategic and International Studies. "We're not saying there will be a carbon tax," he emphasized. "Although climate policies remain uncertain, we expect governments to try to limit emissions and assign a cost to carbon through their policies." Key highlights of the report include:

- Market forces and emerging public policies will continue to have an impact on energy-related carbon dioxide emissions. After decades of growth, worldwide energy-related CO2 emissions are expected to plateau around 2030 before gradually declining toward 2040 despite a steady rise in overall energy use.

- Oil and gas will continue to meet about 60% of all energy needs by 2040; liquid fuels—gasoline, diesel, jet fuel, and fuel oil—will remain the primary transportation choice because of their unique combination of affordability, availability, portability, and high energy density.

- Crude oil demand is expected to increase 25%, led by increased commercial transportation activity; it will be met through technology advances that enable deepwater production and development of oil sands and tight oil, it indicated.

- Natural gas will remain the fastest-growing major fuel source as demand increases by about 65%. "In North America, [its] abundance is leading to a resurgence of chemical as well as manufacturing industries," Colton said. "The world has over 200 years of gas supplies."

- Unconventional gas now accounts for 40% of the world's resource base, and is expected to represent 65% of global gas production growth to 2040, led by North America.

- Practically all of the projected demand growth will occur in developing nations attempting to industrialize as already industrialized countries emphasize efficiency. "The greatest source for the energy future is learning how to use it more efficiently," Colton said.

35. Air Samples at Cruise Ship Docks Worldwide Find Dangerous Levels of Deadly Soot

Air samples taken near idling cruise ships in New York and three European ports contained dangerously high levels of soot, according to test results released by Friends of the Earth US and the Nature and Biodiversity Conservation Union (NABU) of Germany. The groups said the tests underscore the urgent need to install more modern air pollution reduction technology with filters that can all but eliminate deadly soot emissions.

At each port -- New York, Venice, Italy and Hamburg and Rostok, Germany -- samples taken by NABU with an ultrafine particle counter contained hundreds of thousands of microscopic ultrafine particles of soot per cubic centimeter of air. In New York, the sample contained 201,000 ultrafine particles of soot per cubic centimeter while the cruise ship Norwegian Gem was idling on November 15, 2013.

Direct comparison with U.S. Environmental Protection Agency soot standards is not possible, because EPA includes somewhat larger particles, counts their mass rather than their number and measures their concentration over time rather than at peak levels. But the latest research according to NABU indicates that the health hazards of ultrafine particle pollution, which are inhaled deep into the lungs, are the same as for other particles -- heart problems, respiratory illness and premature death.

By comparison with the measurements of hundreds of thousands of particles per cubic centimeter at the cruise ship docks, NABU measured only 5,000 particles per cm3 in the center of Berlin.

"These extremely high measurements at the cruise ship docks are from the use of heavy fuel oil or bunker fuel and lack of pollution control technology," said Dr. Axel Friedrich, formerly an air quality expert with the German federal environmental agency, who led the testing. "Without particle filters, cruise ship engines must operate continuously at the dock to keep the lights on, releasing huge quantities of toxic gases that harm public health."

Port	Date	Particulates per cm3 of air
New York City (Manhattan cruise terminal)	Nov. 11, 2013	~201,000
Venice, Italy	Sept. 16, 2013	≈200,000
Rostock, Germany	Aug. 17, 2013	≈300,000+
Hamburg, Germany	July 13, 2013	≈200,000

NABU and Friends of the Earth are campaigning to get cruise lines worldwide to install state-of-the-art air pollution control technology which can reduce the amount of soot emitted by up to 99 percent. The campaign is focused on Carnival Corp. of Miami, the largest cruise company in the world, which operates 10 cruise lines, under various brand names, in the U.S. and Europe. Although some of Carnival's lines, such as AIDA Cruises of Germany, have installed such equipment, Carnival has not done so for all of its lines and ships.

36. Diesel Fumes Again Linked To Increased Lung Cancer Risk

A new study has found diesel fumes could be responsible for as many as six per cent of all lung cancer deaths in the UK and USA according to a new study published in the Environmental Health Perspectives by an international team led by Roel Vermeulen of the University of Utrecht. Researchers found people occupationally exposed to diesel exhaust fumes account for 4.8 per cent of all lung cancer deaths in the UK and US. People who live on or near major roadways account for a further 1.3 per cent of lung cancer deaths in those countries. In total, the study claims 11,000 deaths may be attributable to diesel fumes.

Truckers and miners regularly exposed to diesel exhaust fumes are at particular risk of terminal lung cancer, with researchers estimating their risk could be up to 70 times higher than is considered acceptable by US health safety standards.

An estimated 21 people in every 10,000 who live alongside highways are also at risk of dying from the disease, compared with one in every 100,000 people who breathe air that meets air quality standards.

To produce the findings, the researchers used data from three previous studies about truckers and miners, and compared them to national death statistics in the UK and US.

"With millions of workers currently exposed to such levels, and likely higher levels in the past, the impact on the current and future lung cancer burden could be substantial," the study said.

Last year, the World Health Organization concluded diesel exhaust fumes are definitely carcinogenic. Strict emissions regulations in Europe, where diesel cars are particularly popular, means diesel engines are becoming increasingly 'clean', in some instances emitting less air pollution than their petrol counterparts. The population of old, uncontrolled diesel engines has declined substantially over the past years in the United States, Europe, Japan and other countries that adopted stringent diesel emission standards. However, uncontrolled, high emission diesels are still common in non-road applications—such as in construction and farm machinery—as well as in many countries around the world that still have relaxed diesel emission requirements.

The study does acknowledge one key limitation of its findings: they do not take into account the smoker status of lung cancer patients.